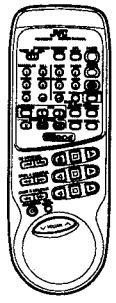
JVC

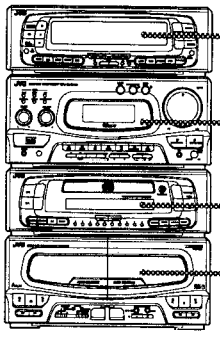
SERVICE MANUAL

COMPACT COMPONENT SYSTEM

XT-G70RBK

(Unit No.RX-G70RBK / SE-G70RBK XL-G70RBK / TD-G70RBK)





(SE-G70RBK)

(RX-G70RBK)

(XL-G70RBK)

(TD-G70RBK)

This manual for XT-G70BK shows the differences between XT-G70BK and XT-MXG7BK. When servicing , refer to the manual of XT-G70BK and XT-MXG7BK (SE-MXG7BK/XL-MXG7BK/ TD-MXG7BK,Manual No.20393)

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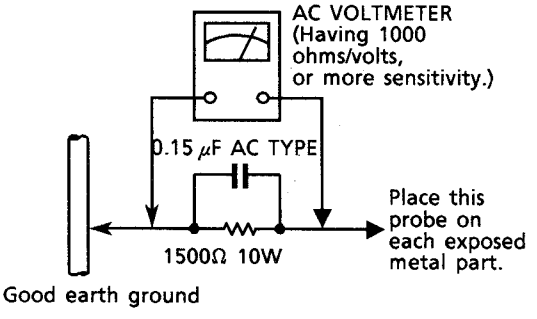
日本ビクター株式会社
ビス部 部品管理課

No. 20489
MAY. 1994

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS

WARNING LABEL

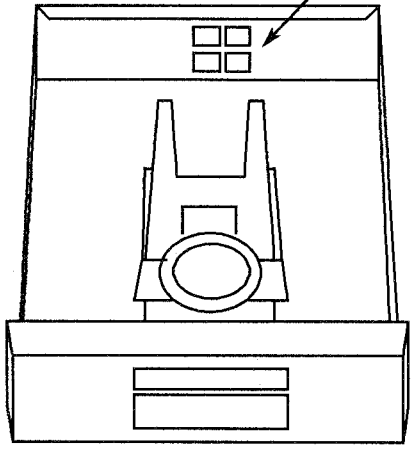
(Except for the U. S. A.)

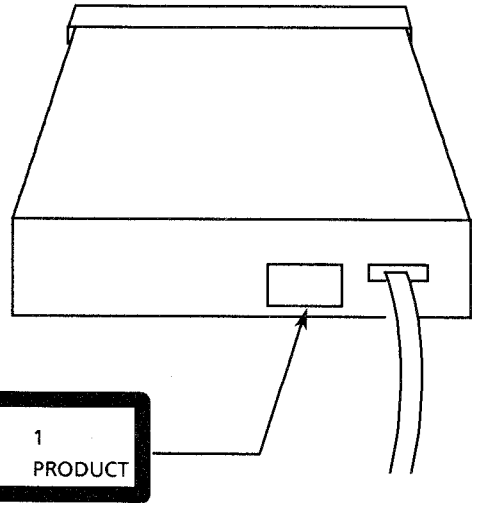
DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)

VARNING: Osynling laserstråling när denna del å öppnad och spärren är urkoppled. Betrakta ej stålen. (s)

ADVARSEL: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)

VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)





CLASSIFICATION LABEL

(Except for the U. S. A. and Canada)

Easy Guide

Getting Started

Check to be sure you have all of the following items, which are supplied with the XT-G70RBK.

AM (MW/LW) Antenna

Remote Control

Batteries

Wire

FM Wire Antenna (only for Germany)

FM Feeder Antenna (except for Germany)

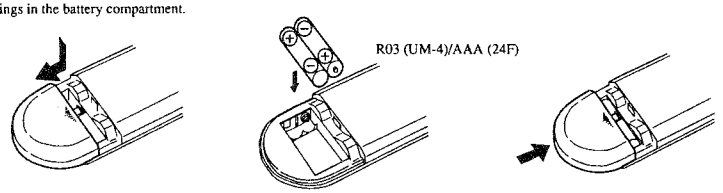
Antenna Adaptor (except for Germany)

Speaker Control cords (for connecting the panoramic shifting speakers)

If anything is missing, contact your dealer immediately.

Putting Batteries in the Remote

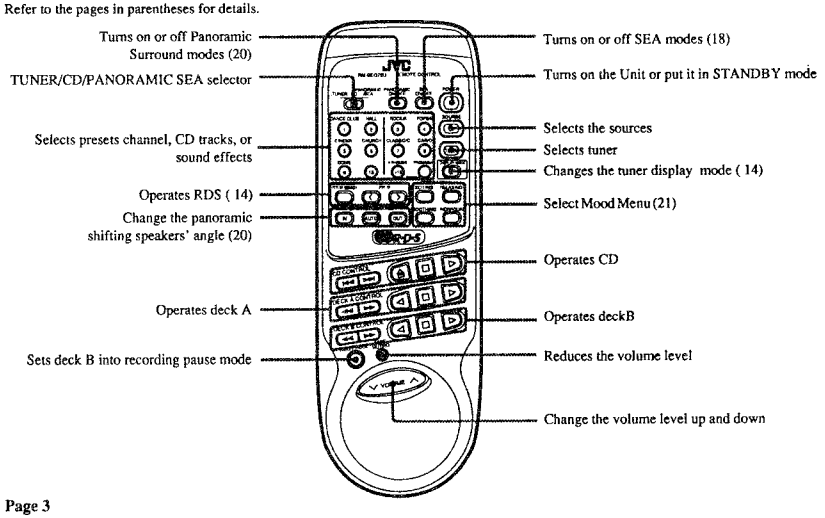
Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and – marks on the batteries with the + and – markings in the battery compartment.



CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.
- Don't expose batteries to heat or flame.

What you can do from the Remote

Refer to the pages in parentheses for details.


Turns on or off Panoramic Surround modes (20)
TUNER/CD/PANORAMIC SEA selector
Selects presets channel, CD tracks, or sound effects
Operates RDS (14)
Change the panoramic shifting speakers' angle (20)
Operates deck A
Sets deck B into recording pause mode
Turns on or off SEA modes (18)
Turns on the Unit or put it in STANDBY mode
Selects the sources
Selects tuner
Changes the tuner display mode (14)
Select Mood Menu (21)
Operates CD
Operates deckB
Reduces the volume level
Change the volume level up and down

CAUTION: Connect the supplied wire as illustrated below; otherwise, the Unit may malfunction.

ACHTUNG: Den mitgelieferten Draht wie unten gezeigt anschließen; andernfalls können Fehlfunktionen auftreten.

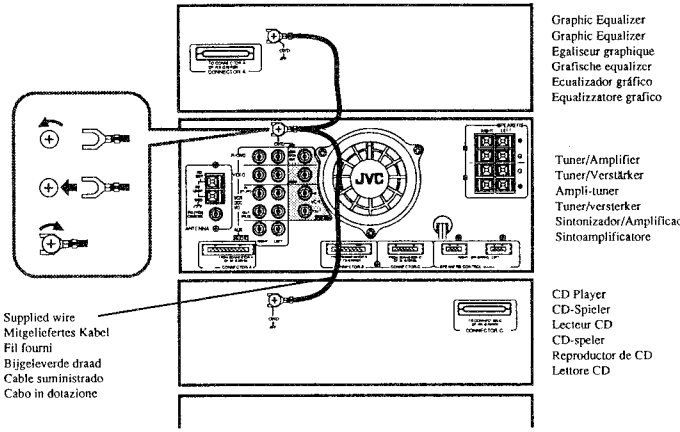
ATTENTION: Branchez le fil fourni comme illustré ci-dessous sinon l'appareil risquerait de ne pas fonctionner correctement.

WAARSCHWING: Sluit de bijgeleverde draad aan zoals hieronder aangegeven; anders kan er storing in de werking van de apparatuur optreden.

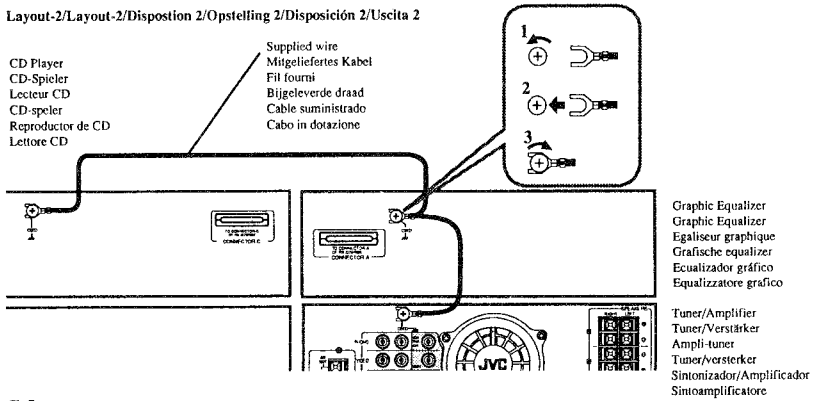
PRECAUCIÓN: Conecte el cable suministrado como se muesta en la ilustración, en caso contrairo, la unidad podría funcionar mal.

ATTENZIONE: Collegare il filo in dotazione come illustrato sotto, altrimenti l'impianto portrebbe malfunzionare.

Layout-1/Layout-1/Dispostion 1/Opstelling 1/Disposición 1/Uscita 1

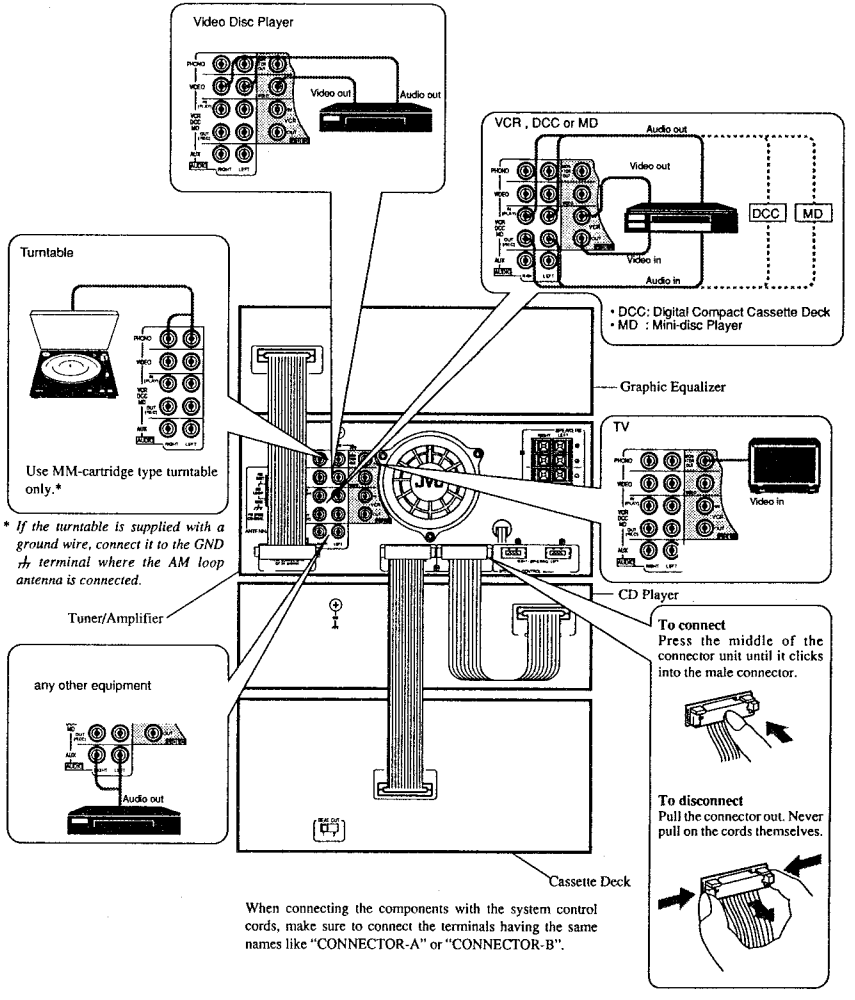


Layout-2/Layout-2/Dispostion 2/Opstelling 2/Disposición 2/Uscita 2



Connecting the System Control Cords and Connecting Auxiliary Equipment

Connect the components
as illustrated.



* *If the turntable is supplied with a ground wire, connect it to the GND ⏚ terminal where the AM loop antenna is connected.*

When connecting the components with the system control cords, make sure to connect the terminals having the same names like "CONNECTOR-A" or "CONNECTOR-B".

When recording an AM (MW/LW) broadcasting program, beat sounds may be heard and recorded.
Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard nor recorded.

CAUTION: First make all connections before plugging the Unit into an AC power outlet.

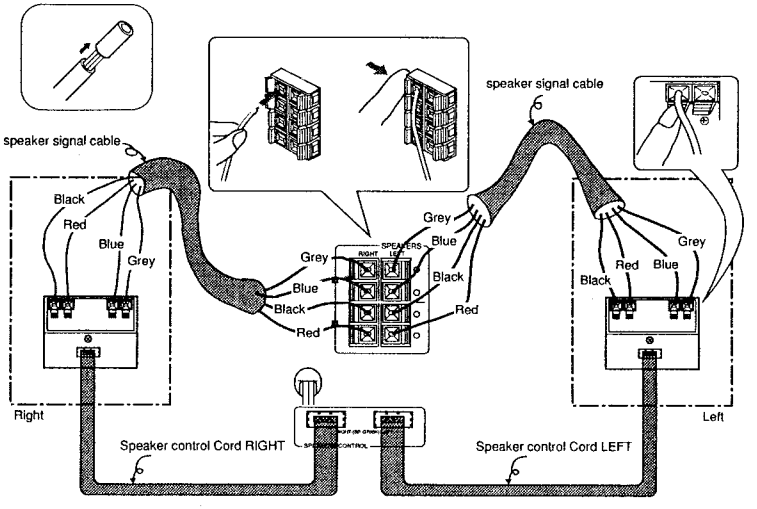
Connecting the Front Speakers

When you use the panoramic shifting speakers SP-G70BK

For each speaker connect one end of the supplied speaker signal cable to the speaker terminals on the back of the XT-G70RBK and one end to the speaker.

On the back panel:

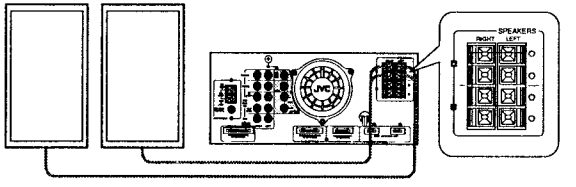
1. Open each terminal.
2. Insert the end of the speaker signal cable as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker signal cables firmly in place.
4. Connect the black (–), red (+), blue (–), and grey (+) terminals of the right side speaker to the black (–), red (+), blue (–), grey (+) terminals marked **A**, **B** **R** on the XT-G70RBK.
   Connect the black (–), red (+), blue (–), and grey (+) terminals of the left side speaker to the black (–), red (+) blue (–), grey (+) terminals marked **A**, **B** **L** on the XT-G70RBK.
5. Connect SPEAKERS CONTROL RIGHT and LEFT with the supplied speaker control cords.



When you use your own speakers – Conventional speakers

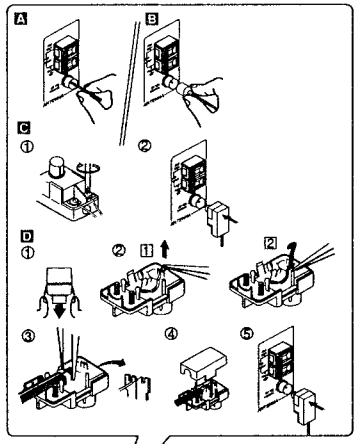
1. Connect the (+) and (–) terminals of the right speaker to the grey (+) and blue (–) terminals marked **A** **R** on the XT-G70RBK.
2. Connect the (+) and (–) terminals of the left speaker to the grey (+) and blue (–) terminals marked **A** **L** on the XT-G70RBK.

Note: You can use only **A** *R and L terminals to connect conventional speakers.*



Connecting the FM and AM (MW/LW) Antennas

FM Antenna Connections



For Germany

A Using the Supplied Wire Antenna

The FM wire antenna supplied can be connected to a FM 75-ohm COAXIAL as a temporary measure.

B Using the Coaxial Type Connector (Not Supplied)

A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Continental Europe

C Using the Supplied Feeder Antenna

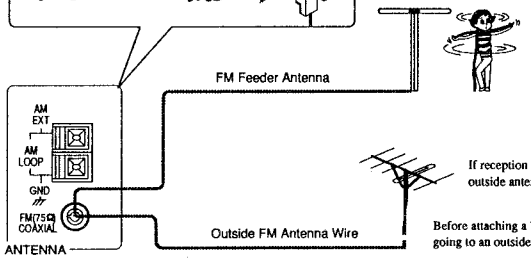
① Attach the feeder antenna to the supplied antenna adaptor as shown in the figure.
② Connect the antenna adaptor to the FM 75-ohm COAXIAL terminal.

D Using FM 75-ohm Antenna Cable (Not Supplied)

① Open the claws at both sides and remove the cover.
② Move the conductor wire from 1 to 2 using tweezers or similar tool (only when using coaxial cable).
③ Fix the coaxial cable and its core.
④ Put on the cover.
⑤ Connect the supplied antenna adaptor to the FM 75-ohm COAXIAL terminal.

Note:

Make sure the antenna conductor do not touch any other terminals, connecting cords and power cord on the system. This could cause poor reception.



For Germany

Extend the supplied wire antenna horizontally.

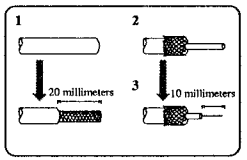
For other continental Europe

Unhold the loops of the supplied FM feeder antenna and extend them as shown.

Fasten them up in the position which gives you the best FM reception.

If reception is poor, connect the outside antenna.

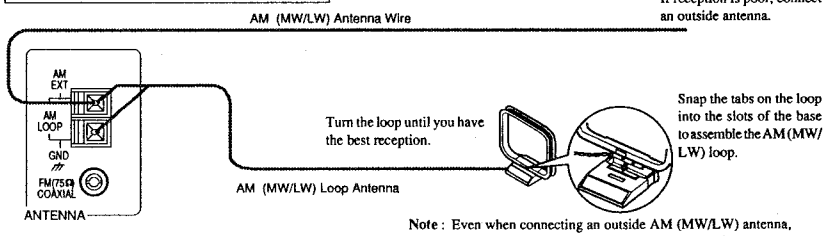
Before attaching a 75-ohm coaxial lead (the kind with a round wire going to an outside antenna), disconnect the supplied antenna.



How to Strip the 75-ohm Coaxial Cable

1. Strip back the outside covering of the 75-ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back over the cable as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied antenna adaptor, as shown in the diagram above.

AM (MW/LW) Antenna Connections

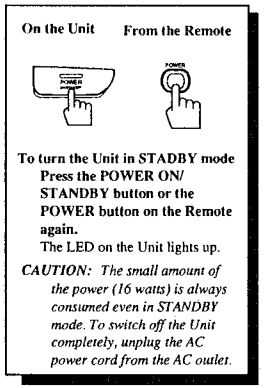

AM (MW/LW) Antenna Wire
If reception is poor, connect an outside antenna.
AM EXT
AM LOOP
GND
FM(75Ω COAXIAL
ANTENNA
Turn the loop until you have the best reception.
AM (MW/LW) Loop Antenna
Snap the tabs on the loop into the slots of the base to assemble the AM (MW/LW) loop.

Note : Even when connecting an outside AM (MW/LW) antenna, keep the indoor AM (MW/LW) loop connected.

Basic Operations

Turning on the Unit

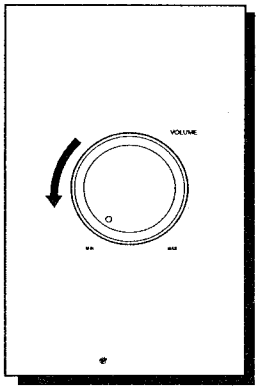
1. Press the POWER ON/STANDBY button or the POWER button on the Remote.
The LED on the Unit goes off.



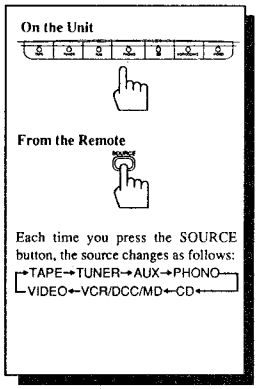
To turn the Unit in STADBY mode Press the POWER ON/ STANDBY button or the POWER button on the Remote again.
The LED on the Unit lights up.

CAUTION: The small amount of the power (16 watts) is always consumed even in STANDBY mode. To switch off the Unit completely, unplug the AC power cord from the AC outlet.

2. Turn down the VOLUME control completely.

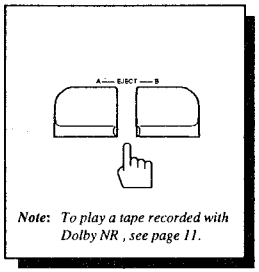


3. Select a source, start playing and adjust the VOLUME control.


On the Unit
From the Remote
Each time you press the SOURCE button, the source changes as follows:
TAPE→TUNER→AUX→PHONO→
VIDEO←VCR/DCC/MD←CD←

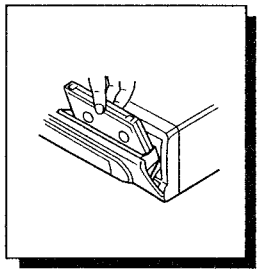
Playing a Tape

1. Press the EJECT button.

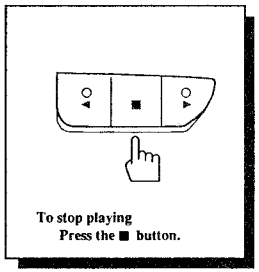


Note: To play a tape recorded with Dolby NR , see page 11.

2. Put a tape in deck A or deck B.



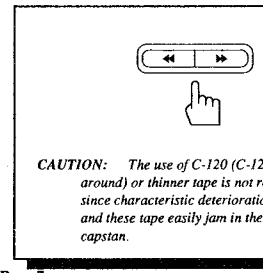
3. Press the ▶ (or ◀) button.



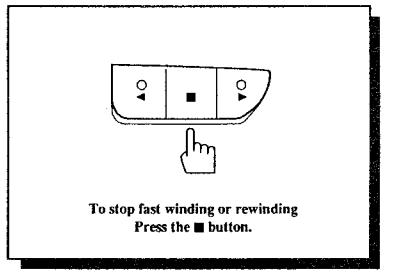
To stop playing Press the ■ button.

Fast Winding or Rewinding

1. Press the ◀◀ or ▶▶ button.



CAUTION: The use of C-120 (C-120 minutes turn around) or thinner tape is not recommended, since characteristic deterioration may occur and these tape easily jam in the pinch and the capstan.

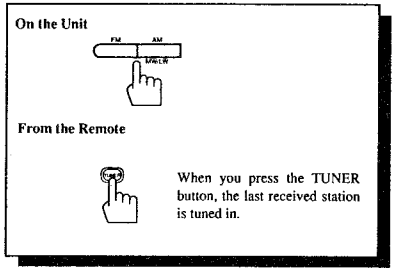


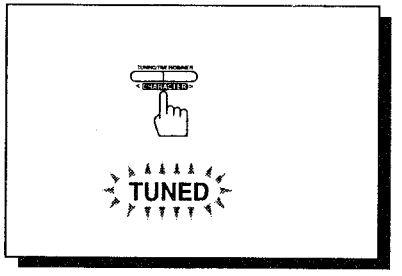
To stop fast winding or rewinding Press the ■ button.

Receiving Radio Broadcasts

1. **Press the FM or AM (MW/LW) button to select the band, or press TUNER on the Remote.**

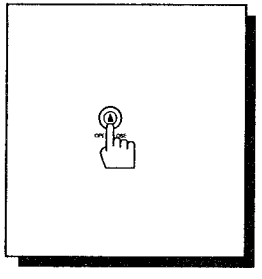
2. **Press the TUNING/TIMER/DIMMER/CHARACTER < or > button to tune in the desired stations.**
When the Unit tunes in the station, The TUNED indicator lights up on the display.



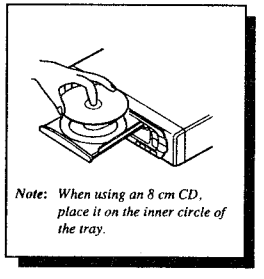


Playing CDs

1. **Press the ▲ OPEN/CLOSE button .**

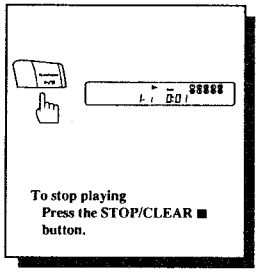


2. **Load a CD on the tray.**



Note: When using an 8 cm CD, place it on the inner circle of the tray.

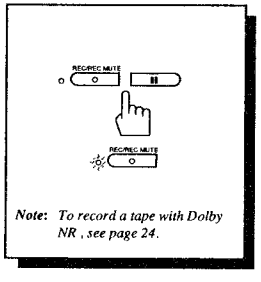
3. **Press the PLAY/PAUSE ►/ II button.**
The CD starts playing.



To stop playing
Press the STOP/CLEAR ■ button.

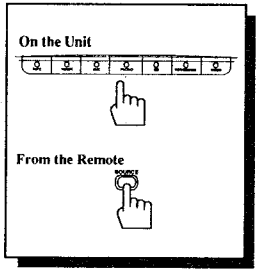
Recording onto a Tape

1. **Press the REC/REC MUTE ○ button and the II button simultaneously.**
The LED next to them lights up and the Unit is in recording pause.

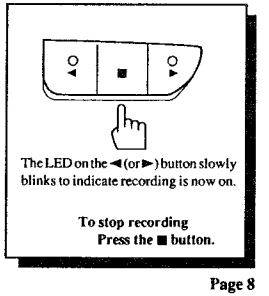


Note: To record a tape with Dolby NR , see page 24.

2. **Start playing the source you want — CD, radio, etc.**



3. **Press the ► (or ◄) button, depending on which side of the tape you want record on, to start recording.**

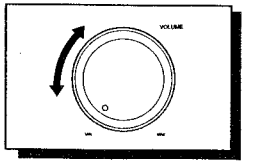


The LED on the ◄ (or ►) button slowly blinks to indicate recording is now on.

To stop recording
Press the ■ button.

Common Operations

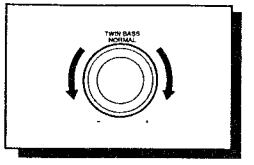
The following operations are commonly used when you play any sound source.



Adjusting the Volume

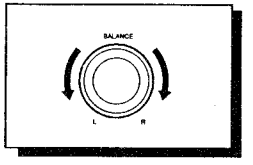
To increase the volume, turn the VOLUME control clockwise.
To decrease the volume, turn it counterclockwise.

> **CAUTION**: Always set the VOLUME control to MIN before starting any source such as the radio, tape, or CD player. If the VOLUME control is left turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.



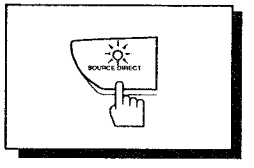
Adjusting the Bass Sound

You can reduce or increase the amount of bass reinforcement by adjusting the TWIN BASS control. When set to the NORMAL position, no bass reinforcement is applied.



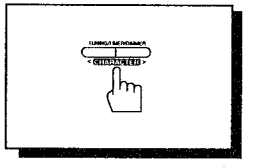
Adjusting the Speaker Output Balance

If the sounds you hear from the right and left speakers are unequal, you can adjust the speaker output balance with the BALANCE control.



High-fidelity Playback

When you press the SOURCE DIRECT button, the LED on the button comes on and "DIRECT ON" appears on the graphic equalizer display. By bypassing the sound effect circuits like SEA programs, the path of the audio signal will be shortened, giving a higher fidelity sound.



Dimmer Function (Tuner/Amplifier)

With this function you can control the display brightness while the Unit is turned off.
Press the TUNING/TIMER/DIMMER/CHARACTER < or > button.
<: makes the display dimmer while the Unit is off.
>: makes the display brighter while the Unit is off.

Listening with Headphones
A standard pair of headphones can be connected at the PHONES jack on the front panel. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**
When you connect the headphones, no sound comes out from the speakers.

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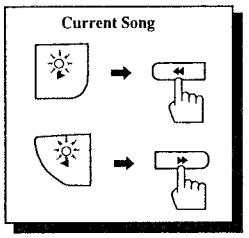
XT-G70RBK

Features Guide

Playing Tapes

If there are 4-second or longer blanks between tracks on recorded tapes, you can use Music Scan to find the beginning of a track.
For simple playback procedures, see page 7.

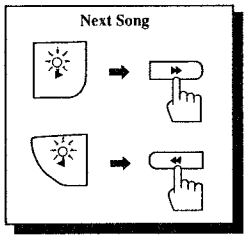


Music Scan (Finding Songs)

To find the beginning of a music track use Music Scan. Music Scan searches for blank portions that usually separates tracks, then plays the next track.

Finding the Beginning of the Current Song

Press the ◀◀ or ▶▶ button during play.
Make sure you press the ◀◀ or ▶▶ button in the opposite direction to tape play.
Searching stops automatically at the beginning of the current track, and the current track starts automatically.

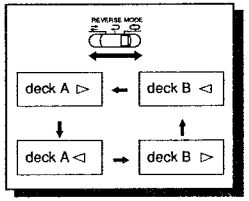


Finding the Beginning of the Next Song

Press the ◀◀ or ▶▶ button during play.
Make sure you press the ◀◀ or ▶▶ button in the same direction as tape play.
Searching stops automatically at the beginning of the next track, and the next track starts automatically.

Notes

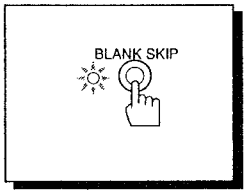
- *Music Scan works by detecting a 4-second blank at the beginning of each selection, so it won't work well if your tape has:*
  - *No blank at the beginning of a track.*
  - *Noise (often caused by much used or poor quality dubbing) which fills the blank with.*
  - *Long very soft passages or pauses in a track. Music Scan will detect these instead of the 4-second blanks.*
- *Music Scan only works on one tape at a time.*
  - *If you use Music Scan on deck A during recording on deck B, deck B enters recording pause mode.*
  - *If you start recording on deck B while Music Scan is used on deck A, Music Scan is stopped.*



Using the REVERSE MODE Selector

When you play tapes, you can select the side to be played by using the REVERSE MODE selector.

⇄ : only one side is played
⊃ : both sides are played
↻ : both sides are played repeatedly.
When tapes are in both decks, continuous play follows the sequence diagramed at the left regardless where playback starts.
The sequence is repeated endlessly.

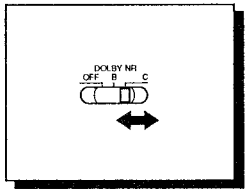


Skipping Blank Portions during Playback

If there is a blank portion of 10 seconds or longer on a tape, the Unit will automatically fast forward, and skip the blank portion, then play back the next track.

Press the BLANK SKIP button before or during play.
The LED next to it lights up.

To cancel the blank skip playback
Press the BLANK SKIP button again.
The LED next to it goes off.

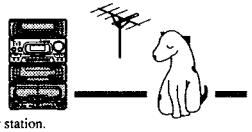


*Using the DOLBY NR * Selector*

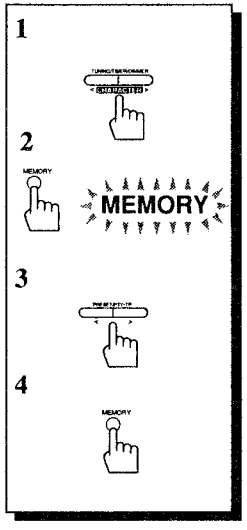
To play a tape recorded with Dolby NR, set the DOLBY NR selector to the same NR system (B or C) as was used when recording.
To play a tape recorded without Dolby NR, set the DOLBY NR selector to the OFF position.
If a tape is recorded with the Dolby NR system, playing it back with the same Dolby NR system will reduce tape hiss and improve the clarity of the sound.

* *Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.*
"DOLBY" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

Receiving Radio Broadcasts



You can browse through all the stations or use the preset function to go immediately to a particular station.
For tuning stations manually, see page 8.



Storing Preset Stations

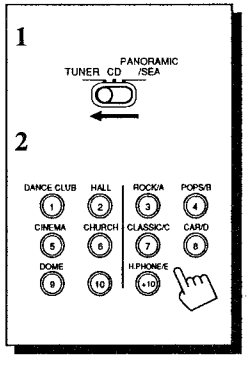
Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 keys or from the XT-G70RBK itself using the PRESET/PTY•TP < or > button to call up the channel number.

To Preset Radio Stations

1. **Tune in the station you want to preset (see page 8).**
2. **Press the MEMORY button.**
   On the Tuner/Amplifier display, the MEMORY indicator blinks for 5 seconds.
3. **Select a channel number by pressing the PRESET/PTY•TP < or > button while the MEMORY indicator is blinking.**
4. **Press the MEMORY button again and the station is assigned to the channel number showing on the display.**
   You can preset a total of 40 stations, either AM (MW/LW) and FM stations, or a mixture of both, at random.

To cancel a stored preset station
Storing a new station on a used number erases the previously stored one.

> **CAUTION:** Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the above procedure.

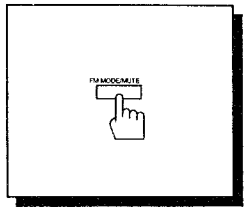


Tuning in a Preset Station

The Remote is very useful for this because you can select channels by number using the 10 keys.

1. **Set the TUNER/CD/PANORAMIC SEA selector to the TUNER position.**
2. **Press the +10 button and 10 keys to select the channel you want.**
   Example: For preset number 5, press 5.
   For preset number 15, press +10 then 5.
   For preset number 20, press +10 then 10.

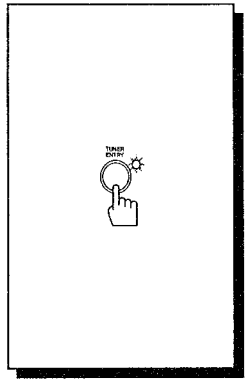
You can also tune in the stations by using the PRESET/PTY•TP < or > button on the Unit. Each time you press the PRESET/PTY•TP < or > button, the channel increases or decreases by one. If you hold the button down, the stations will cycle one after another.



Selecting the FM Tuning Mode

When an FM stereo broadcast is hard to receive or noisy:
Press the FM MODE/MUTE button on the main Unit while listening to the radio so that reception improves, although you lose the stereo effect. In this state, you will hear noise while tuning into the stations. The MONO indicator lights up on the display.

To restore stereo effect
Press the FM MODE/MUTE button again so that the AUTO indicator appears on the display. In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sounds. In this state, you won't hear noise while tuning into stations.



Using the Tuner Entry Function

When the CD or tape playback ends, the source will automatically switch to the radio. Your listening enjoyment will thereby not be interrupted. So with Tuner Entry on, the Unit automatically shifts to the most recently tuned radio station when a tape or CD comes to an end.

Press the TUNER ENTRY button.
The LED next to it lights up.

To cancel the Tuner Entry function
Press the TUNER ENTRY button again. The LED next to it goes off.

Note
In five situations even if the Tuner Entry function is on, it will not take effect, and the source will not switch to the radio after the CD or tape playback ends.
1) When you intentionally stop the CD or tape deck by pressing the STOP/CLEAR ■ button on the CD player or the ■ button on the tape deck.
2) When any timer activated CD or tape stops playing.
3) When you set the REVERSE MODE selector for tape play to the ⇄ position.
4) When you use Repeat Play for CD.
5) When you set Auto Power Off.

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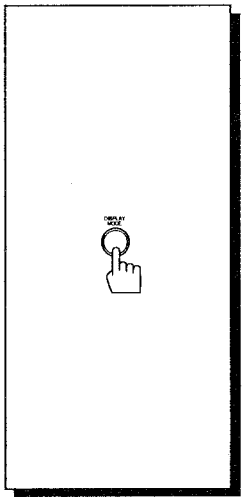
Receiving FM Stations with RDS (Radio Data System)

RDS is a broadcasting service which a growing number of FM stations are now providing. It allows these FM stations to send additional signals along with their regular program signals. For example, the stations send their station names, and information about what type of program they broadcast, such as sports or music, etc.
When tuned to an FM station which provide the RDS service, the RDS indicator lights up, the station frequency (and then the station name if sent) is displayed.
The TP (Traffic Program) indicator lights up on the display when the received broadcast carries traffic announcements, and the TA (Traffic Announcement) indicator lights up while a traffic announcement is being received.



What Information Can RDS Provide

With the XT-G70RBK, you can watch three types of RDS service as well as two other indications on the display.
To show them on the display, press the DISPLAY MODE button while listening to the radio. Each time you press the button, the display changes to show the following information:

PS (Program Service):	While searching, "PS" appears and then station names commonly known will be displayed. "NO PS" appears if no signal is sent.	These are the three RDS services
PTY (Program Type):	While searching, "PTY" appears and then types of broadcast programs will be displayed. "NO PTY" appears if no signal is sent.	
RT (Radio Text):	While searching, "RT" appears and then text messages the station sends will be displayed. "NO RT" appears if no signal is sent.	
Character Mode:	8 characters you have set yourself. (See page 15.) "NO CHARA" appears if you have not used this function or if you have tuned to preset number over 10.	
Station Frequency:	Station frequencies.	

Note
If searching finishes at once, "PS", "PTY", and "RT" will not appear on the display.

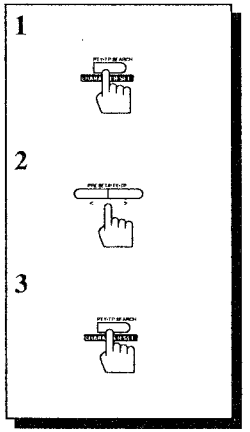
If you press the DISPLAY MODE button while tuning to an AM (MW/LW) station, the display alternates between station frequency and character mode since RDS is not available in AM (MW/LW) broadcasts.

Descriptions of the PTY codes and TP

With the XT-G70RBK, you can receive the following PTY and TP signals.

NEWS:	News
AFFAIRS:	Topical program expanding on the current news or affairs
INFO:	Programs on medical service, weather forecast, etc.
SPORT:	Sports events
EDUCATE:	Educational programs
DRAMA:	Radio plays
CULTURE:	Programs on national or regional culture
SCIENCE:	Programs on natural sciences and technology
VARIED:	Other programs like comedies or ceremonies
POP M:	Pop music
ROCK M:	Rock music
M.O.R. M:	Middle-of-the-road music (usually called "easy listening")
LIGHT M:	Light music
CLASSICS:	Classics
OTHER M:	Other music
ALARM:	Emergency broadcasts
NONE:	Undefined

TP: Broadcasts which carry traffic announcements



To search the Program by PTY codes and TP

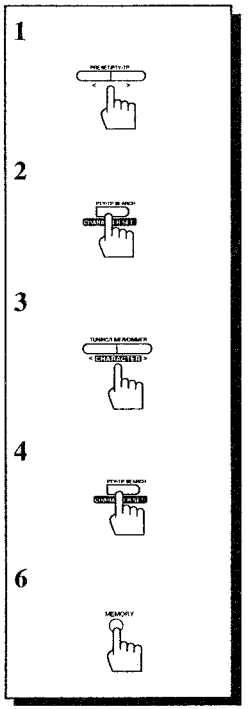
One of the advantages in the RDS service is that you can locate a particular kind of program by specifying the PTY codes.

To search a program using the PTY codes, follow this procedure:

1. **Press the PTY•TP SEARCH/CHARACTER SET button (or the PTY•TP SEARCH button on the Remote) while listening to the radio.**
   The display alternates between "PTY TP" and "SELECT."

2. **Select the PTY code with the PRESET/PTY•TP < or > button (or the PTY•TP <, > button on the Remote) within 4 seconds and show the PTY (or TP) code on the display.**
   Each time you press the button, the display gives you the following:
   NEWS⟷AFFAIRS⟷INFO⟷SPORT⟷EDUCATE⟷DRAMA⟷
   CULTURE⟷SCIENCE⟷VARIED⟷POP M⟷ROCK M⟷
   M.O.R. M⟷LIGHT M⟷CLASSICS⟷OTHER M⟷ALARM⟷
   TP⟷NEWS

3. **Press the PTY•TP SEARCH/CHARACTER SET button (or the PTY•TP SEARCH button on the Remote) within 4 seconds again.**
   - While searching, the display alternates between "SEARCH" and the selected PTY code.
   - The Unit searches 40 preset channels and stops when it finds the one you have selected. To continue searching after the first stop, press the PTY•TP SEARCH/CHARACTER SET button again while the indications on the display blink. If no program is found, "NOT FOUND" appears on the display.
     – If you select TP, the Unit will stop searching when it finds a broadcast carrying traffic announcements. However, this does not necessarily mean that you can listen to the traffic announcements at that time. Rather it means that you will get them when they are broadcast.



Character Mode

You can give names (8 characters) to any station (FM and AM (MW/LW)) regardless of the RDS service availability, and show them on the display by pressing the DISPLAY MODE button repeatedly. To do this, you need to preset the stations you want to name into the first ten preset numbers.

To give a name, follow this procedure:

1. **Press the PRESET/PTY•TP < or > button and select a preset number from 1 to 10 on the display.**

2. **Press the PTY•TP SEARCH/CHARACTER SET button within 4 seconds.**

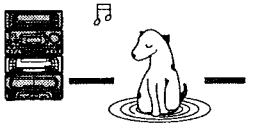
3. **Press the TUNING/TIMER/DIMMER/CHARACTER < or > button within 10 seconds to select the first character.**
   Each time you press the button, the character changes. The available characters are listed on page G-6.

4. **Press the PTY•TP SEARCH/CHARACTER SET button to move the character insertion position on the display.**

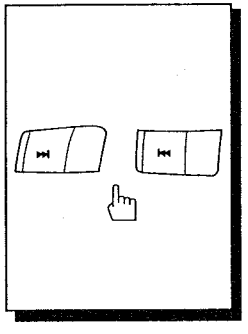
5. **Repeat steps 3 and 4.**

6. **Press the MEMORY button within 10 seconds.**
   The Unit memorizes the name you have given. Once you have given the name to a preset channel, this name appears first whenever you tune to this preset channel. (If RDS sends the PS signal, it will appear after the name you have given.)
   - It is not necessary to input all the 8 characters. When you finish, press the MEMORY button.

Playing CDs



You can use various function such as Auto Search, Random Play, Repeat Play, and Program Play.



Locating a Particular Track or a Particular Portion of the Track

To Find a Track You Want

Each time you press briefly and release the ⏮ or ⏭ button, the track changes by one.

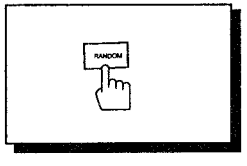
- Press and release the ⏭ button to go ahead one track at a time.
- Press and release the ⏮ button to go back one track at a time.
- While CD is not playing, holding the ⏮ or ⏭ button will change the tracks continuously.

To locate a track directly with the Remote

1. **Set the TUNER/CD/PANORAMIC SEA selector to the CD position.**
2. **Press the +10 button and the 10 keys to select a track number.**
   Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.

To Find a Particular Point You Want During Play

Holding down the ⏮ or ⏭ button on the main Unit will fast forward or fast reverse the CD so you can quickly find the particular portion of a track you want to listen to.

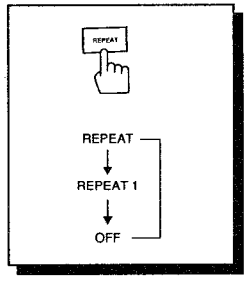


Using Random Play

Tracks is played in no special order.
Before starting a CD, press the RANDOM button. The RANDOM indicator lights up and Random Play starts. When all of the tracks have been played, Random Play stops.

To stop and cancel Random Play

Press the STOP/CLEAR ■ button.



Using Repeat Play

You can have either all tracks or the individual track currently playing repeat as many times as you like.
Each time you press the REPEAT button, it cycles from OFF, which turns the REPEAT indicator out on the display, to REPEAT which repeats all tracks in order or according to the program you have set, and REPEAT 1 which repeats the currently playing track.

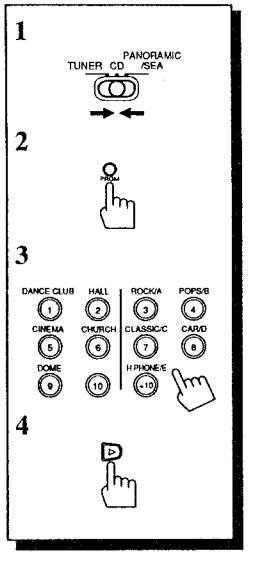
To cancel Repeat Play

Press the REPEAT button until the REPEAT or REPEAT 1 indicator on the display goes off.

Note

Repeat Play can be used with Program Play or Random Play.

- *With Program Play, the program you made is repeated.*
- *With Random Play, all the tracks on the CD are repeated in a different order each time.*



Using Program Play

You can arrange the tracks to play in any order you like. You can program up to 32 tracks, and you can repeat tracks if you wish.

The Remote is very useful for making a program.

1. **Set the TUNER/CD/PANORAMIC SEA selector to the CD position.**
2. **Press the PRGM button. The PROGRAM indicator lights on the CD display.**
3. **Press the + 10 button and the 10 keys to select the track numbers you want.**
4. **Press the ▷ button on the CD CONTROL section of the Remote to start the program.**
   The first track you programmed starts to play.

To stop the CD during Programmed Play

Press the □ button.

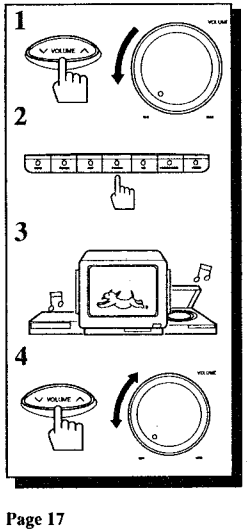
To cancel the program, press the PRGM button on the Remote or the PROGRAM button on the main Unit.

A Few Hints to Make Programming Easier

- If you want to change the number of a track you just entered, press CANCEL on the Unit, and enter another number.
- If you want to change the entire program, press the STOP/CLEAR ■ button on the Unit while CD is not playing, and then you can start over.
- To view the order of the tracks in your program when it's playing, press the □ button on the Remote or the STOP/CLEAR ■ button on the Unit, then press the ⏮ or ⏭ to display the order of the tracks. Each time you press the ⏭ button the next selection in your program is displayed. (Press the ⏮ button for the previous selections.)
- To add a track to your program during play, press the 10 keys on the Remote. Any tracks you add will appear at the end of the current program.

Listening to a VCR , Turntable or other Equipment through Your XT-G70RBK

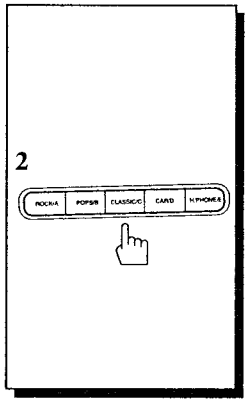
By playing a VCR, Turntable or other connected equipment through the XT-G70RBK, you can often dramatically improve the sound quality, as well as gain control over how the music or program sounds.



1. **Set the Unit's volume to its lowest setting. Use < VOLUME > on the Remote, or turn the VOLUME control all the way counterclockwise.**
2. **Select the connected equipment with the source selecting buttons on the Unit or press the SOURCE button on the Remote repeatedly.**
3. **Switch on the connected equipment and start it playing.**
4. **Adjust the volume.**

Adjusting the Sound

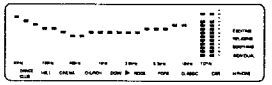
You can select one of five pre-programmed SEA patterns (Preset mode) or to create your own sound patterns (Manual mode).



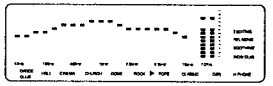
Using the SEA Preset Patterns (Preset Mode)

1. **Make sure that the LED next to the MANU. button on the Unit is turned off.**
   If it lights up (the Unit is in SEA manual mode), press the PRGM button.
2. **Press the desired SEA preset button.**

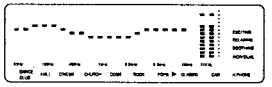
ROCK Increases both treble and bass sounds.



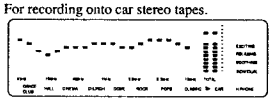
POPS Increases the richness and fullness of the vocal sound.



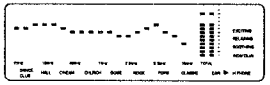
CLASSIC Adds depth and brilliance to the sound.

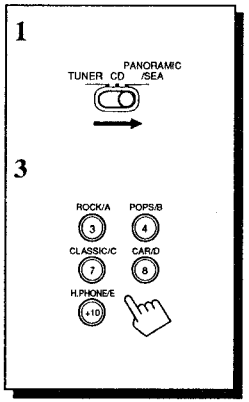


CAR For recording onto car stereo tapes.



H.PHONE For recording onto headphones stereo tapes.

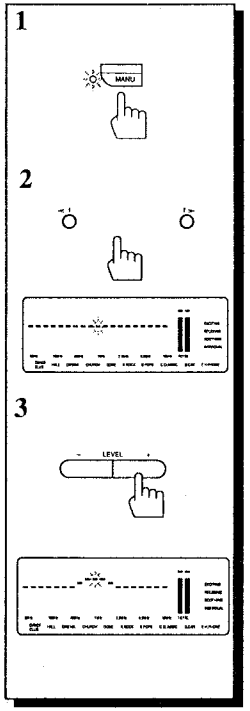




You can also use the Remote to select the SEA preset patterns.

1. **Set the TUNER/CD/PANORAMIC SEA selector to the PANORAMIC SEA position.**
2. **Make sure that the LED next to the MANU. button on the Unit is turned off.**
   If it lights up (the Unit is in SEA manual mode), press the PRGM/MANU. button.
3. **Press the desired SEA preset button.**

To cancel the SEA effect, press the SEA button on the Unit or SEA ON/OFF on the Remote. Each time you press the button, the SEA effect switches on and off repeatedly.



Creating Your Own SEA Patterns (Manual Mode)

1. **Press the MANU. button to put the Unit into SEA manual mode.**
   The LED next to it lights up.
2. **Press the <f or f> button to set the frequency range to be changed.**
   The LED on the SEA button lights up, and the frequency range level bar on the display blinks.
   Each time you press the <f or f> button, the frequency range changes up or down.
   While it is blinking you can set the frequency level.
3. **Press the – LEVEL + button to set the level, while the selected frequency range level bar is blinking.**
4. **Repeat steps 2 and 3 to adjust other frequency ranges.**
   You can adjust 7 frequency ranges.

To flatten the SEA pattern

Press the FLAT button. The adjusted SEA pattern will be flattened so you can readjust the SEA pattern.

Note

Although the five SEA preset patterns cannot be changed, an individual sound pattern can be created based on a preset pattern. When you make any change to the SEA preset pattern, the Unit automatically enters the SEA manual mode so you can modify and store the pattern you create.

To store the pattern

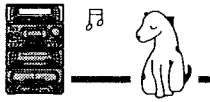
1. **Press the MEMORY button after creating your own SEA pattern.**
   Your own SEA pattern blinks on the display.
2. **While the SEA pattern is blinking, press the SEA preset button to select the memory number from among A, B, C, D, or E.**

To record the SEA pattern

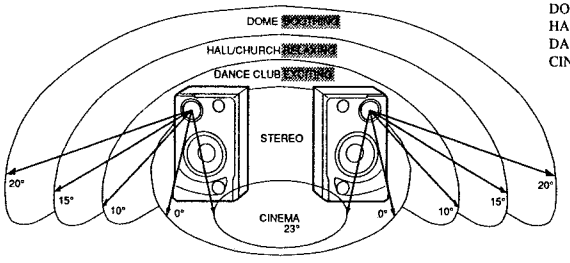
To record sound together with a SEA pattern (either a preset or manual one), first turn on SEA and select the desired SEA pattern. The music will be enhanced according to the pattern you selected. SEA patterns cannot be applied to the following types of recording:

- A song cannot be dubbed (at either normal or high speeds) with a SEA sound pattern.
- When the amplifier's SOURCE DIRECT is on, songs cannot be recorded with a SEA pattern.

Using Panoramic Surround Modes



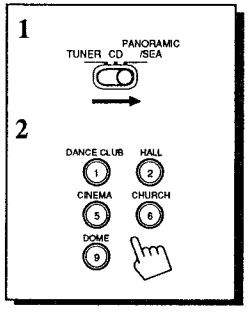
With five Panoramic Surround modes and panoramic shifting speakers, the sound field can be enlarged to give a more realistic sound. By connecting the panoramic shifting speakers, the angle of the speakers will shift in accordance with the respective Panoramic Surround mode: DANCE CLUB, HALL, CINEMA, CHURCH, DOME.



DOME: will shift outward 20°.
HALL/CHURCH: will shift outward 15°.
DANCE CLUB will shift outward 10°.
CINEMA: will shift inward 23°.

Notes

- *Panoramic shifting speakers inside the speaker cabinet will shift corresponding to the respective Panoramic Surround mode . The speakers shift automatically inward or outward to give you the dynamic sound fields. The mode can be set from either the Unit or the Remote.*
- *When you select CINEMA, the speakers will shift inward to make the spoken words easier to hear.*
- *Normally, the speakers face directly forward.*



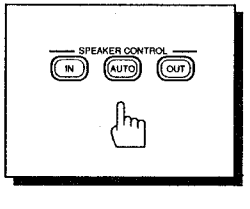
Selecting Panoramic Surround Mode

When using the Remote:

1. **Set the TUNER/CD/PANORAMIC SEA selector to the PANORAMIC SEA position.**
2. **Press the desired Panoramic Surround mode button.**

DANCE CLUB	gives a throbbing bass beat.
LIVE	gives the feeling of a live stage.
DOME	gives the spacious feeling of a domed stadium.
HALL	gives clear vocals and the feeling of a recital hall.
CHURCH	reproduces the echo effect of a stone-walled church.

When you use the Unit, just press the desired Panoramic Surround mode button directly.



To change the speaker angle from the Remote.

Press the IN or OUT button to change the angle (3°, 8°, 13°, 18° and 23°).
The indicator blinks to indicate the speaker's direction of movement.

- Press the IN button to shift the speakers inward.
- Press the OUT button to shift the speakers outward.
  - If the speaker angle is changed when CINEMA is selected, the Panoramic Surround mode will change from CINEMA to the previously selected one.

To get back the preset speaker angle for the Panoramic Surround mode selected

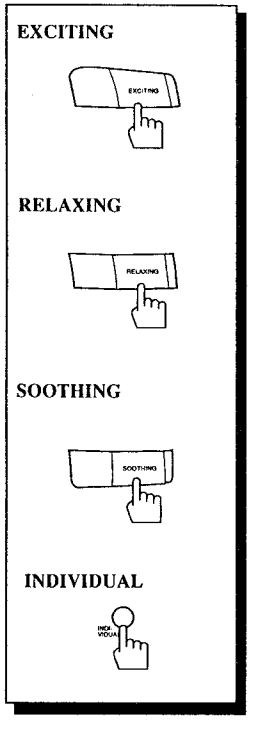
Press the AUTO button.

Notes

- *You can apply Panoramic Surround modes when you record.*
- *A sound cannot be dubbed with the Panoramic Surround modes (at either normal or high speeds).*

To cancel the Panoramic Surround mode

Press the PANORAMIC SURROUND on the Unit or PANORAMIC ON/OFF on the Remote so that the indicator on the Unit goes off.
Each time you press the button, the panoramic surround mode turn on and off repeatedly.



Using Mood Menu

The Mood Menu allows you to select one of four special effect sound modes. Selecting a mode will set the respective SEA pattern and shift panoramic shifting speaker angle automatically. The Individual Mode allows you to store your own settings in memory.

EXCITING

Press the EXCITING button.
Regardless of the music source, a sharp, upbeat sound is produced.

RELAXING

Press the RELAXING button.
A beautiful, subtle sound is obtained. The sound feels like a refreshing breeze which gives a relaxed feeling.

SOOTHING

Press the SOOTHING button.
By controlling the dynamic range, a rich, easy listening sound can be maintained. Low-volume sounds drowned out by larger-volume sounds are boosted and peak sounds are suppressed.

INDIVIDUAL

Press the INDIVIDUAL button so that the stored setting is called up.
You can use the Individual Mode to create your own customized sound effect. The individual mode settings can be stored in memory.

To store your own settings into the Individual Mode

1. Select the desired Panoramic Surround mode or SEA pattern. (See page 18 or 20.)
2. Adjust the frequency range if you want. (See page 19.)
3. Press and hold the INDIVIDUAL button to store your own pattern.

Note

Do not keep the INDIVIDUAL button pressed to call up the stored setting; otherwise, you may store a new setting rather than calling up the previous one.

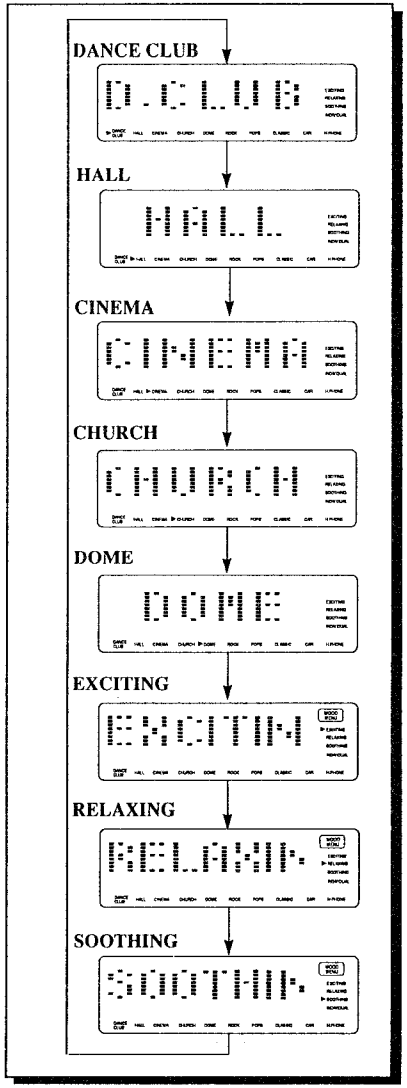
(No. 20489) 1-13

XT-G70RBK

Demo Mode

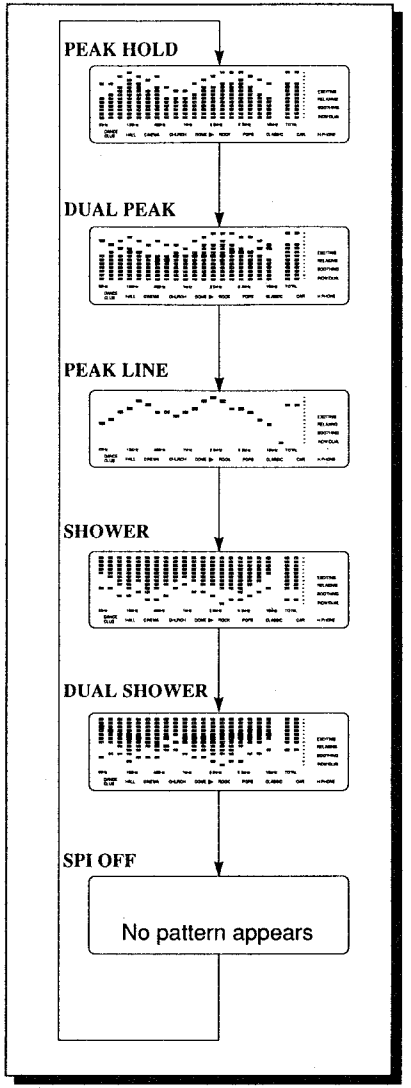
Use the Demo Mode to try the various sound modes for a song.
During play, press the DEMO button.
Nine sound patterns cycle automatically.

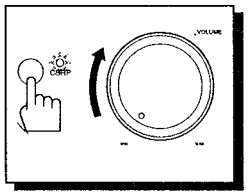
To cancel the Demo Mode, press the DEMO button again.

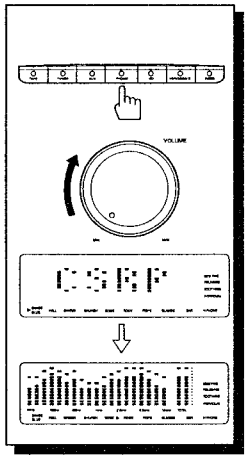


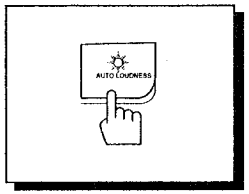
Display Mode

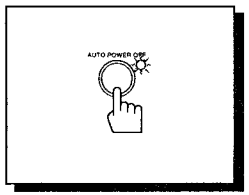
During play, press the DISPLAY button on the graphic equalizer.
Each time you press the button, the display shows the various sound patterns.
DUAL PEAK and DUAL SHOWER show also the SEA pattern simultaneously.











CSRP (COMPU LINK SOURCE RELATED PRESET SYSTEM) Function

CSRP is the electronic feature that presets volume, display mode and other control functions. The XT-G70RBK has four CSRP functions; Volume CSRP, Time Link CSRP, Auto Loudnes, Auto Power Off.

Volume CSRP

Press the CSRP button (the CSRP indicator lights up) while the Unit is on. The VOLUME control is automatically set to around the most recently used level. When you turn off the Unit, the VOLUME control is automatically turned down.

Time Link CSRP

When you turn off the Unit with the CSRP indicator lit, Time Link CSRP stores the following items into the CSRP memory automatically.

- Volume level
- Panoramic Surround mode (see page 20)
- SEA preset pattern (see page 18)
- Display mode (see page 22)

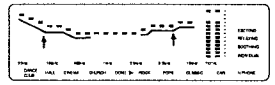
These four items are stored for each source and for each time range.
** One day is divided into our time ranges; 6:00—, 12:00—, 18:00— and 24:00—.*

To call up the Time Link CSRP
Select the sources while the CSRP indicator is lit.

Auto Loudness

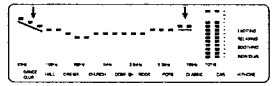
When you press AUTO LOUDNESS button (the indicator on it lights up), the SEA characteristic will change in accordance with the volume level. This means that at low volume, insufficient bass and treble are automatically compensated for, so you can have a full sound at any volume level.

At low volume level



The bass and treble are automatically increased.

At high volume level



The setting approaches the normal SEA characteristic.

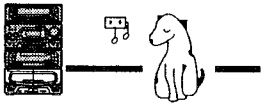
Auto Power Off

You can fall asleep to music while listening to CD or tape. The XT-G70RBK will turn off by itself rather than play all night.
Press the AUTO POWER OFF button while listening to CD or tape.
When CD or tape play is over, the Unit will automatically turn off.

Notes

- *The Repeat Play of CD player (see page 16) does not work with Auto Power Off.*
- *The Tuner Entry (see page 13) does not work with Auto Power Off.*
- *Ending of tape play depends on the Reverse Mode setting (see page 10).*
  Tape play ends either after one side is played or after both sides are played.

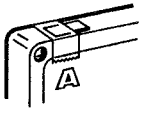
Recording onto Tape



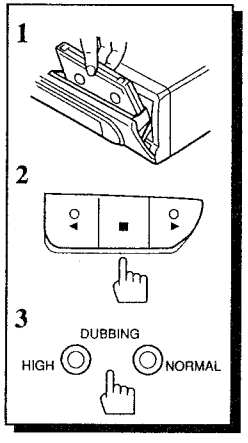
Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality.
With high speed it takes only about one-half the time to copy a tape. For regular recording procedure, see page 8.

Things to know before start recording

- It should be noted that it may be unlawful to re-record tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable program and in any literary, dramatic, musical, or artistic work embodied therein.
- To reduce hiss noise, set the DOLBY NR selector either to the B or to the C position. (See page 11.)
- Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.



- Type I, II and type IV tapes can be used for recording.
- If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during recording. Either turn off the TV or increase the distance between the TV and the XT-G70RBK.



High Speed Dubbing or Normal Speed Dubbing

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another. You can only use deck B to make recordings. Deck A is for playback only.

1. **Put the tape you want to copy *from* into deck A, and the tape to be copied *onto* in deck B.**
2. **On both decks, press either the ◄ or ► button while pressing the ■ button, in order to select the playing and recording side.**
3. **Press either the DUBBING HIGH or the DUBBING NORMAL button.**

Notes

- *During dubbing, you can listen to another source such as the radio or the CD player, just as if you weren't dubbing.*
- *The sound cannot be dubbed with neither SEA sound effects nor Panoramic Surround effects.*
- *During dubbing, when you press the AUTO POWER OFF button, the Unit automatically turns off after dubbing is over.*

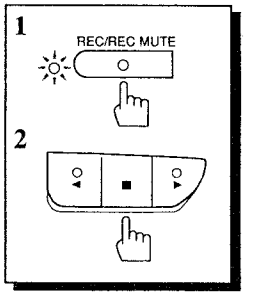
To dub on both sides
Set the REVERSE MODE selector to either ⊃ or ⊂⊃. Dubbing starts from the front side of both deck A and B.

To Record Selections from Several Different Tapes

When you want to take selections from several different tapes and combine them on one tape during dubbing, follow these steps:

1. **Press the ■ button on deck A.**
   This causes deck A to stop, so you can change tapes, and deck B makes a 4-second blank and pauses.
2. **Change the tape in deck A.**
3. **Press either the DUBBING HIGH or NORMAL button (the same one you are using now) to start deck A playing and deck B recording again.**

Note
Dolby NR is inactive in dubbing mode regardless of the setting of the DOLBY NR switch. The dubbed tape automatically contains the same processing as the source tape.

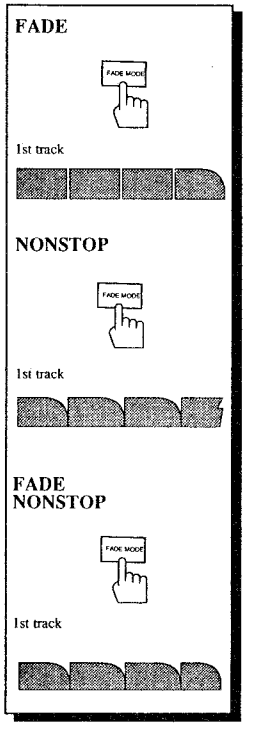


Making a 4-second Blank on a Recorded Tape

1. **Press the REC/REC MUTE ○ button during play.**
   The LED next to it blinks for 4 seconds and deck B enters recording pause mode.

   To make a blank portion longer than 4 seconds, keep the button pressed for the length of time you want the blank to be.
   When the button is released, deck B enters recording pause mode.

2. **Press the ◄ or ► button to restart recording.**



Recording from CD — Fuzzy CD Recording

Since the XT-G70RBK provides 3 types of Fade modes and 4 types of CD Editing modes, you can make a variety of CD recordings by combining these 7 modes.

To Use the Fade Mode

There are 3 types of Fade mode; FADE, NONSTOP, FADE NONSTOP (a combination of NONSTOP and FADE).
Each time you press the FADE MODE button, the Fade Mode changes in the following sequence.

FADE → NONSTOP → FADE,NONSTOP → OFF

(You will see these changes on the CD display)

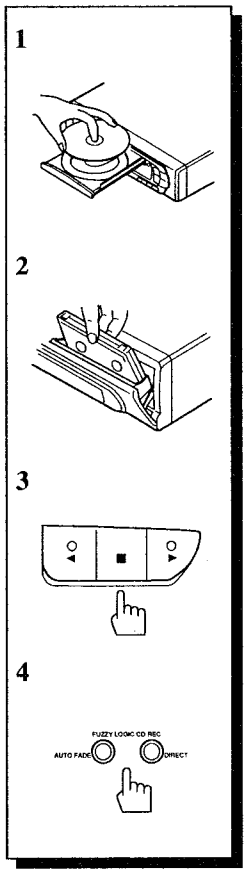
FADE : At the end of the tape, the XT-G70RBK automatically goes back to the beginning of the last track and re-records it, this time gently fading out at the end.
- If you have set the REVERSE MODE selector to ⊃ or ⊂⊃ , side B starts recording at the beginning of the last track on side A. So you get the whole track, even though part of it was cut off when the tape ran out on side A.

NONSTOP: Every track ends by fading out, and the next track starts as soon as fading-out is over. Thus, you can make a tape with no blank portions between tracks. At the end of the tape, however, this mode does not make the end of the track fade out, if the track is cut off when the tape runs out.

FADE NONSTOP: Using this mode you can record the entire tape without any blanks. Every track ends by fading out, and at the end of the tape, the last track fades out instead of cutting off abruptly when the tape runs out, just like FADE.
- If you have set the REVERSE MODE selector to ⊃ or ⊂⊃, side B starts recording at the beginning of the last track on side A.

Note
NONSTOP and FADE NONSTOP modes cannot be used with the Multi Edit mode (see page 27).

To record with sound effects
When you start recording with Fuzzy CD Recording or CD Edit, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each track, use the standard recording features described on page 8.



Fuzzy CD Recording

If the recording level is too high, distortion will result; On the other hand, if the recording level is too low, the sound volume will be low. So, it is very important to check the peak level of the source tracks before recording. Furthermore, it is necessary to check the tracks' overall level. With the Fuzzy CD Recording feature, if the tracks' overall level is high, the recording level will be set lower, and, if the tracks' overall level is low, the recording level will be set higher. In this way, the optimum recording level is set according to the sound inclination of the tracks as well as the peak level. The conventional peak search function does not take into account the tracks' overall balance when setting the recording level; therefore, the recording level tended to be low. Fuzzy CD Recording gives a balanced recording level which matches different kinds of tracks.

1. **Load a CD in the tray.**
2. **Put a tape in deck B.**
3. **Select the side to record on, by pressing either the ◄ or ► button while pressing the ■ button on deck B.**
4. **Press either FUZZY LOGIC CD REC AUTO FADE or DIRECT button.**
   The tape starts recording 10 seconds before the CD starts, making a 10-second blank at the beginning of the tape to insure the entire selection is recorded.

   AUTO FADE starts recording with AI Edit (page 27) and FADE mode (page 25).
   DIRECT starts recording from the first track to the end.

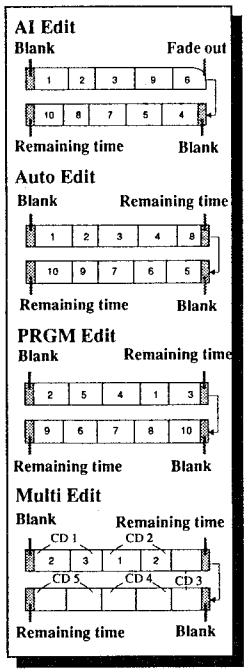
   - When FUZZY LOGIC CD REC (either AUTO FADE or DIRECT) is pressed, the optimum recording level will be determined by the fuzzy search, then the recording will start from the first CD track. (Since the fuzzy search will search the entire CD, it will take a little time.)
   - During the fuzzy search, the track number, number of tracks, playing time, etc., will change accordingly.
   - If the last recorded track cannot fit on side A, it will be re-recorded with fade-out.
   - When the REVERSE MODE selector is set to either ⇉ or ⇄, side B recording will start after a blank portion of 10 seconds is made. The recording will continue with the last track recorded with a fade-out on side A.
   - The last track on side B will end by fading-out.
   - If the inserted tape has not been rewound, it will be rewound automatically before recording begins.

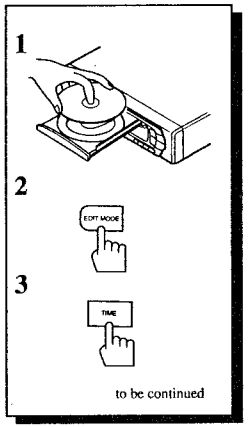
To stop recording

Press the ■ button on deck B or the STOP/CLEAR ■ button on the CD player.

Note

The tracks can be recorded with a specified sound effect (SEA pattern and Panoramic Surround modes). Sound effects cannot be changed during recording.





to be continued

Using CD Edit Mode

The XT-G70RBK has four CD Edit modes; AI Edit, Auto Edit, Program Edit and Multi-Edit. To take advantage of these Edit modes, read the following instructions carefully.

What is AI Edit?

This is an editing function which complements the Auto Edit mode (below). You can use it to maximize the use of the remaining tape length. When the tape comes to its end, the FADE mode will function automatically. Up to 16 tracks can be edited for one side.

What is Auto Edit?

To prevent the beginning of the track from not being recorded, the last track will be replaced automatically in accordance with the remaining tape length. The editing will start with the earlier tracks and the tracks will be selected so they can fit on the tape. No track is selected twice. However, depending on the remaining time, the same track may be selected twice to fill in the recording time at the end of the tape. Up to 16 tracks can be edited for one side.

What is PRGM (program) Edit?

Using this mode you can select which CD tracks go on which side of the tape, and in what order.

What is Multi Edit?

Using this mode you can select tracks from several different CDs. The NONSTOP and FADE NONSTOP modes cannot be used with Multi Edit mode.

Operating procedures

1. **Load a CD in the tray.**
2. **Press the EDIT MODE button to select the desired CD Edit mode you want to use.**
   Each time you press the button the indicator is displayed as follows in the CD display.

   AI → AUTO → PRGM → MULTI → OFF

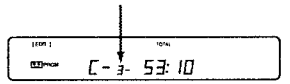
3. **Press the TIME button to select the time length.**
   Each time you press the button, the pre-programmed tape length is shown on the display as follows.

   40 → 46 → 50 → 54 → 60
   90 ← 80 ← 74 ← 70 ← 64

   If you want to use the Remote, you can set the tape length by using the +10 button and 10 keys. (Make sure that the TUNER/CD/PANORAMIC SEA selector is set to the CD position.)

   ex. C-30: +10, +10, 10.
   C-46: +10, +10, +10, +10, 6.
   C-74: +10, +10, +10, +10.....Press the +10 button seven times, then press 4 button.

   This number shows how many times you have pressed the +10 button.



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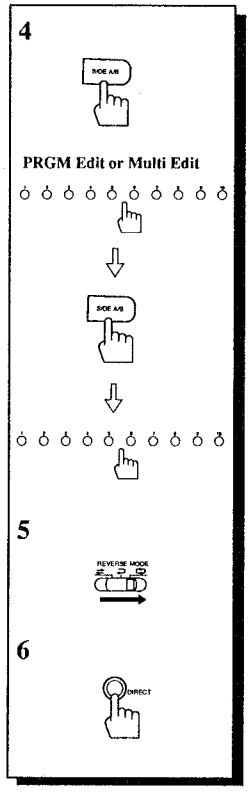


4. **Press the SIDE A/B button to set the tape length.**

   When you have selected the A1 Edit or Auto Edit
   The tracks which can fit on side A and B will be automatically selected in accordance with the specified tape length. By repeatedly pressing the SIDE A/B button you can check which tracks have been programmed for which side of the tape.

   When you have selected the PRGM Edit
   Select the track numbers for side A with the 10 keys.
   Press the SIDE A/B button.
   Select the track number for side B.

   When you have selected the Multi Edit
   Select the track numbers from the first disc with the 10 keys.
   When you have selected the Multi Edit, you can select tracks from different discs (up to 10 tracks from one disc).

5. **Put a tape in deck B and set the REVERSE MODE selector to the ⇄ position.**

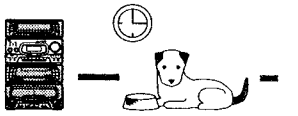
6. **Press the FUZZY LOGIC CD REC DIRECT button.**
   After a blank of 10 seconds is made at the beginning of the tape, the recording starts. If the inserted tape has not been rewound, it will be rewound automatically before the recording begins.

7. **When you have selected the Multi Edit**
   Deck B enters recording pause mode, when the first disc play ends.
   Change the disc and select the tracks again, then press the FUZZY LOGIC CD REC DIRECT button. If you want to record on side B, press the SIDE A/B button and repeat this procedure.

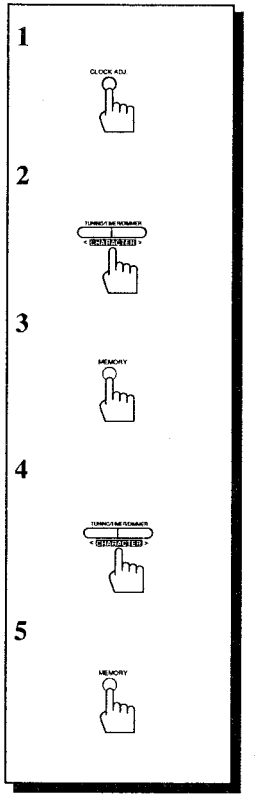
To stop the recording
Press the STOP/CLEAR ■ button.

To delete the last selected track (only for PRGM Edit and Multi Edit)
Press the CANCEL button in stop mode. Each time you press the button, the last selection will be deleted.

Using the Timers



The timers let you control recording and playing functions automatically.
Recording Timer—Unattended recording of radio broadcasts. You can set the starting time and recording duration.
Wake Up Timer/Sleep Timer—Wake up to music from any source. Fall asleep and have your XT-G70RBK turn off automatically after a certain length of time.
Once Timer/Daily Timer—You can program the Unit to come on playing a source at a particular time, and then shut off at a special time.



Setting the Clock

The timers depend on the clock: If the clock is right, the timers will work as you expect, but if the time is incorrect on the clock then the timers will also be incorrect. So, let's set the clock first.

1. **Press the CLOCK ADJ. button.**

2. **Set the hour by pressing the TUNING/TIMER/DIMMER/CHARACTER < or > button.**
   Each time you press it, the hour advances by one. Hold the button down, and the clock will advance one hour at a time.

3. **Press the MEMORY button, when the correct hour is showing on the display.**
   The hour is set.

4. **Set the minutes by pressing the TUNING/TIMER/DIMMER/CHARACTER < or > button.**
   Each time you press it the minutes advance by one. Hold the button down, and the minutes advance in 10 minute increments .

5. **Press the MEMORY button again.**
   The minute is set, and the clock is set and starts from zero second.

> If the clock has not been set or if there has been a power outrage, "0:00" will be displayed and "CLOCK" will blink.
> If there is a power failure, the clock loses its setting, the display shows "0:00," and it must be reset.
> You can set the clock and the Timers whenever the XT-G70RBK is turned off, but still connected to a live power source.

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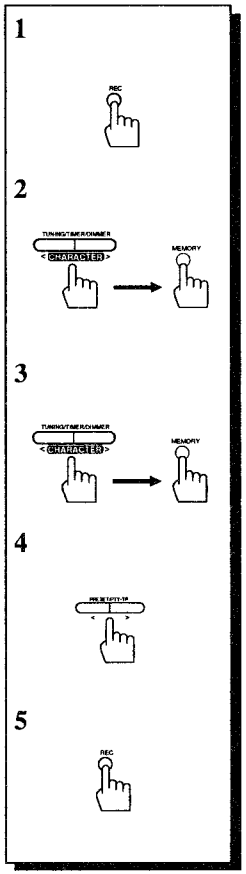


Recording Timer

With the recording timer you can make a tape of a radio broadcast automatically whether or not you are there to start the XT-G70RBK. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the radio and tape deck to come on:

- A long enough tape must be in deck B.
- The clock must be set to the correct time.

1. **Press the REC button.**
   As long as the indicators are blinking on the display, you can continue with the setting process. If you wait too long, and they stops blinking before you are done, just press the REC button twice and start over.

2. **Set the time you want the radio to come on and the tape in deck B to start recording.**
   Use the TUNING/TIMER/DIMMER/CHARACTER < or > button and the MEMORY button just like setting the clock. (See page 29)

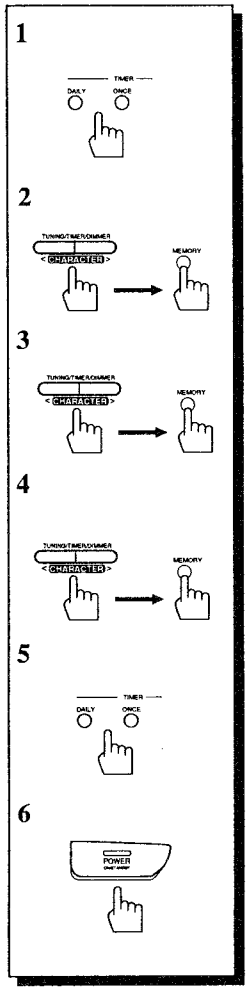
3. **Set the time you want the radio and deck B to shut off.**
   Use the TUNING/TIMER/DIMMER/CHARACTER < or > button and MEMORY button just like setting the clock. (See page 29)

4. **Press the PRESET/PTY•TP < or > button to select the preset channels.**
   At the end of the set length of time the radio and deck B will shut off.

5. **Press the REC button again.**
   The Unit will memorize the setting.
   When the recording timer switches the XT-G70RBK on, the VOLUME control will automatically be set to MIN.
   Notice that the REC indicator is lighted up on the display whenever the Recording Timer is set.

If you do not want the timer to operate but want to keep the setting
Press the REC button so that the REC indicator on the display goes off.
To reactivate the timer, press the REC button again so that the REC indicator lights up.

Note
You will see "VOLUME-0" on the display after setting is complete or while checking the timer contents. This indication means that the volume level during timer recording is set to minimum.



Once Timer/Daily Timer

Once Timer works only once.
Daily Timer executes the timer operation at the same time everyday.

1. **Press the ONCE or DAILY button which you want to set.**
   The ONCE or DAILY indicator (whichever you have chosen) blinks on the display.

2. **Press the TUNING/TIMER/DIMMER/CHARACTER< or > button to set the start time and the stop time.**
   Use the TUNING/TIMER/DIMMER/CHARACTER < or > button and MEMORY button just like setting the clock. (See page 29)

3. **Press the TUNING/TIMER/DIMMER/CHARACTER < or > button to select the source, and then press the MEMORY button.**
   Each time you press it the display will cycle from one source to the next. When the source you want is showing, press the MEMORY button. The Unit will memorize the setting.

Setting the Source

Indicator	Source played
TUNER	TUNER
CD ---	CD
TAPE	TAPE
-----	the most recently used source

- When TUNER is selected
  You need to select a preset station by using the PRESET/PTY•TP < or > button.
- When CD is selected
  You can designate the first track to play from the first 20 tracks on the CD by using the PRESET/PTY•TP < or > button.

4. **Press the TUNING/TIMER/DIMMER/CHARACTER < or > button to set the volume, then press the MEMORY button.**
   Each time you press it the display cycles from one volume setting to the next as shown in the table below. When you press the MEMORY button, the Unit will memorize the setting.

Setting the volume

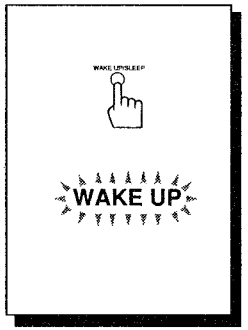
Display	Volume
VOLUME – –	Volume level at the last setting before turning off the Unit
VOLUME – A	
VOLUME – B	
VOLUME – C	

5. **Press the ONCE or DAILY button.**
   The timer indicator you have selected remains lit on the display and shows you the timer is set.

6. **Press the POWER button to turn the Unit off.**

If you do not want the timer to operate but want to keep the setting
Press the ONCE or DAILY button so that the ONCE or DAILY indicator disappears from the display.
To reactivate the timer, press the ONCE or DAILY button again so that the ONCE or DAILY indicator lights up.

Note
When the start time comes, the VOLUME control gradually turns up to the set position. For example, if your set position is VOLUME-B, the VOLUME control first turns up to and stays at the VOLUME-A position briefly, then turns up to the VOLUME-B position.



Wake Up Timer

With this timer you can wake up to music from a CD, tape or your favorite radio program.
- The Wake Up Timer can only be set when the Unit is turned off.

Press the WAKE UP/SLEEP button with the XT-G70RBK off.
The WAKE UP indicator starts blinking on the display .
Each time you press the WAKE UP/SLEEP button while the WAKE UP indicator is blinking, it changes the time shown on the display in the sequence shown below.

0:10 → 0:20 → 0:30 → 1:00 → 1:30 → 2:00 → 3:00 → OFF ← 12:00 ← 11: 00 ..... 4:00 ←

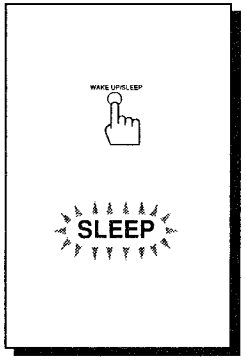
After selecting the time, wait about 5 seconds, and the XT-G70RBK memorizes your setting.
- The WAKE UP indicator remains lit on the display to let you know that the Wake Up Timer is set.

To check the time remaining until the Unit turns on
Press the WAKE UP/SLEEP button once.
The remaining time is displayed for 5 seconds.

To change the set time
Press the WAKE UP/SLEEP button repeatedly.

To cancel the Wake Up Timer setting
Press the WAKE UP/SLEEP button repeatedly so that the WAKE UP indicator disappears from the display.

Hints for using your Wake Up Timer
- When the set time comes you will hear the most recently used source.
- The volume when the timer turns on the source is the volume last set when the XT-G70RBK was used. This can be quite a surprise first thing in the morning, so you might want to reset it before going to sleep.
- If the CD is the most recently used source, it starts playing from the first track.



Sleep Timer

Using this timer, you can fall asleep to music and know your XT-G70RBK will turn off by itself rather than play all night.
- Sleep timer can be set only when the Unit is turned on.

Press the WAKE UP/ SLEEP button with the XT-G70RBK on and a source playing..
The SLEEP indicator start blinking on the display.
Each time you press the WAKE UP/SLEEP button while the SLEEP indicator is blinking, the shut-off time shown on the display changes as shown below.

0:10 → 0:20 → 0:30 → 1:00 → OFF ← 2:00 ← 1:30 ←

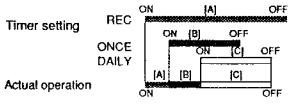
The Unit will now turn off after the time you set.

To check the time remaining until the Unit turns off
Press the WAKE UP/SLEEP button once.
The remaining time is displayed for 5 seconds.

To cancel the Sleep Timer setting
Press WAKE UP/SLEEP button repeatedly until the SLEEP indicator disappears from the display.

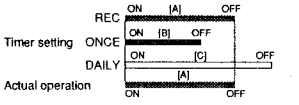
Timer Priority

Setting multiple timers within the same time range will make actual operation complicated.
For instance, while the Recording Timer may be set to record a program from 8:00 AM to 9:00 AM , the Daily Timer may be set to play a CD at 8:30 AM . So will it interrupt the radio recording, or will it just not come on, since Recording Timer is already on?

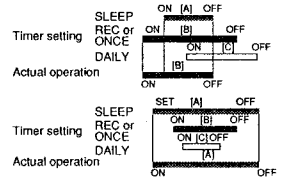


* [A], [B], and [C] indicate the different sources.

A) If the Recording, Once, and Daily Timers are set within the same time range, each timer will come on at the time you have set. If another timer is already on, that timer will be shut off when the second timer starts. So if you are recording a radio broadcast with the Recording Timer and the Once Timer is set to start a different station playing during the recording, you will lose the recording at that point.

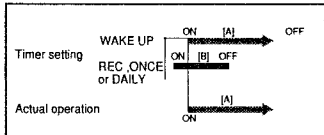


B) If the Recording, Once, and Daily Timers have the same starting time, the timer operation will be executed according to the following priority:
1. Recording Timer
2. Once Timer
3. Daily Timer



* Since the source cannot be selected for the Sleep Timer, the source is always [B].

C) If the Sleep Timer is set while another timer is operating, the other timer operation will be canceled.
Timer operations will not start and be canceled while the Sleep Timer is operating.



D) The Wake Up Timer operation will have priority over any other timer operation.

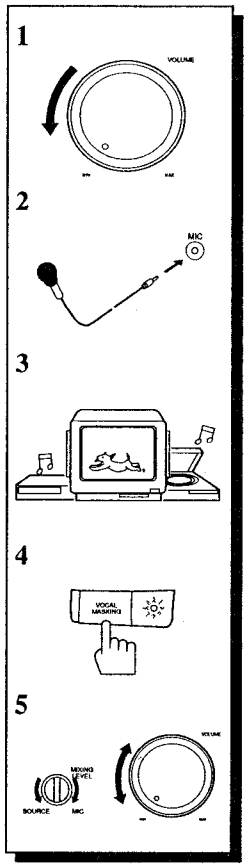
E) If the Sleep Timer and Auto Power Off have been set within the same time range, the timer operation with the earlier shut-off time will have priority.

F) If a timer operation begins during Auto Power Off, the timer operation will have priority.

G) If Auto Power Off is used during a timer operation, Auto Power Off will have priority.

Vocal Masking (Sing Along)

The VOCAL MASKING button lets you use regular tapes, CDs or records as sources of sing-along music. When you press the VOCAL MASKING button, the lead vocal is reduced, and you can replace it by singing into the microphone as the music plays.



How to Sing Along with Vocal Masking

1. **Turn down the VOLUME control completely.**
2. **Attach the microphone (not supplied) by plugging it into the MIC jack in the amplifier section.**
3. **Start the source.**
   CD, tape, connected VCR, Turntable, etc.
4. **Press the VOCAL MASKING button.**
   The LED on it lights up.
5. **Now adjust the volume of the source with the VOLUME control, and the volume of your voice with the MIXING LEVEL control as you sing into the microphone.**

Setting the MIXING LEVEL

TOWARD	RESULT
SOURCE	Instrumental music source are emphasized
MIC	Your voice is emphasized

Important information about Vocal Masking

- Because the radio signal is not as reliable as signals coming from a tape or CD, you may not always get satisfactory results using the radio as a source for Vocal Masking.
- With this method of Vocal Masking the sound in the middle of the stereo field, which is usually a vocal, is reduced without reducing the instrumental part. However, the voice part is not completely eliminated, only significantly reduced.
- Some tapes and CDs are better sources for singing along than others. Mono sources are not suitable for Vocal Masking.
- On sources with duets, strong echoes, a chorus, or with only a few instruments, the singer's voice may not be completely reduced.
- Poorly dubbed tapes may not work well for Vocal Masking.

Using the Microphone Only

1. **Attach the microphone.**
2. **Set the MIXING LEVEL to the MIC position.**
3. **Press the CD button from the source selecting buttons.**
   If you hear the sound from a CD, press the STOP/CLEAR ■ button.
4. **Adjust the VOLUME control.**

To record from the microphone

You can use the microphone for recording. Sound going into the microphone is mixed with sound sent to the tape in deck B from some other source, such as the CD, or radio.
See the procedure for recording on page 8.
You cannot record your singing-along when the main source is a tape in deck A.

Note

To prevent howling and squealing when using the microphone, adjust the VOLUME control, and try not to point the microphone at the speakers.
When you are not using the microphone, disconnect it.

Troubleshooting

- If you are having a problem with your XT-G70RBK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 4 – 6.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected. The loop antenna is too close to the system. The feeder/wire antenna is not properly extended and positioned.	Re-connect the antenna securely. Change the position and direction of the loop antenna. Extend feeder/wire antenna at the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked. The batteries are discharged.	Remove the obstruction. Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette holder cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn on the system.

Specifications

Amplifier

Output Power (IEC 263-3/DIN)	
FRONT SPEAKERS A	19 watts per channel, min. RMS, both channels driven into 8 ohms at 1 kHz
FRONT SPEAKERS B	21 watts per channel into 6 ohms at 80 Hz with 0.9% total harmonic distortion.
Total Harmonic Distortion at Half-Rated Power	0.07%
Audio Input Sensitivity/Impedance (1 kHz)	
PHONO	2.5 mV/50 kohms
VIDEO	300 mV/50 kohms
VCR/DCC/MD	300 mV/50 kohms
AUX	300 mV/50 kohms
Audio Output Load/Impedance	
VCR/DCC/MD	150 mV/5 kohms
Video Input	
VIDEO	1 Vp-p/75 ohms
VCR	1 Vp-p/75 ohms
Video Output	
MONITOR	1Vp-p/75 ohms
VCR	1Vp-p/75 ohms

Tuner

FM	
Tuning Range	87.5 – 108.0 MHz
Usable Sensitivity	0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio (IHF-A weighted/DIN)	MONO (at 85 dBf) 80 dB STEREO (at 85 dBf) 73 dB/64 dB
AM (MW/LW)	
Tuning Range	MW: 522 – 1,629 kHz LW: 144 – 288 kHz
Dimensions (WxHxD)	275 x 125 x 299 mm (10 - 7/8 x 4 - 15/16 x 11 - 13/16 in.)
Weight	5.1 kg (11.2lbs)

Tape deck

Frequency response	
Normal:	30 – 15,000 Hz
CrO2:	30 – 16,000 Hz
Metal:	30 – 17,000 Hz
Wow and Flutter (WRMS/DIN)	0.09%/0.2%
Dimensions (WxHxD)	275 x 125 x 270 mm (10 - 7/8 x 4 - 15/16 x 10 -11/16 in.)
Weight	2.9 kg (6.5 lbs)

Compact Disc Player

Dynamic Range (1 kHz)	90 dB
Signal-to-Noise Ratio	100 dB
Wow and Flutter	Unmeasurable
Dimensions (WxHxD)	275 x 90 x 275 mm (10 - 7/8 x 3 - 9/16 x 10 - 7/8 in.) (Maximum depth 415 mm (16-2/8 in.) with the CD tray open)
Weight	2.2 kg (4.8 lbs)

Graphic Equalizer

SEA Center frequencies	63 Hz, 160 Hz, 400 Hz, 1 kHz, 2.5 kHz 6.3 kHz, 16 kHz
SEA Control Range	±12dB ±1dB
Dimensions (WxHxD)	275 x 90 x 267 mm (10 - 7/8 x 3 - 9/16 x 10 - 9/16 in.)
Weight	1.6 kg (3.6 lbs)

Power Specifications

Line Voltage & Frequency	AC230V~50 Hz
Power Consumption	160 watts

Supplied Accessories

FM feeder antenna (except for Germany) (1)
FM wire antenna (only for Germany) (1)
AM (MW/LW) loop antenna (1)
Remote control (RM-SEG70U) (1)
Batteries R03(UM-4)/AAA(24F) (2)
Antenna adaptor (except for Germany) (1)
Wire (1)
Speaker control cords (2)

Panoramic Shifting Speakers SP-G70BK

Type	3-way bass reflex type
Speakers	
Low range: Woofer	16.5 cm (6-1/2 in.) cone x 1
Mid range:(Moter Driven)	9.0 cm (3-9/16 in.) cone x 1
High range:Tweeter	5.5 cm (2-3/16 in.) cone x 1
Sound pressure level	
Low range speaker	86 dB/w.m
Mid/High range speaker	86 dB/w.m
Power handling capacity	
Low range speaker	30 watts
Mid/High range speaker	25 watts
Frequency Range	
Low range speaker	38 Hz — 200 Hz (XT-G70RBK System total)
Mid/High range speaker	120 Hz — 20,000 Hz
Impedance	
Low range speaker	6 ohms
Mid/High range speaker	8 ohms
Dimensions (WxHxD)	230 x 426 x 281 mm (9 - 1/16 x 16 - 3/16 x 11 - 1/8 in.)
Weight	6.5 kg (14.4lbs) each
Supplied Accessory	Speaker cords (2)

(Design and specifications subject to change without notice.)

Technical Explanation

1. Outline

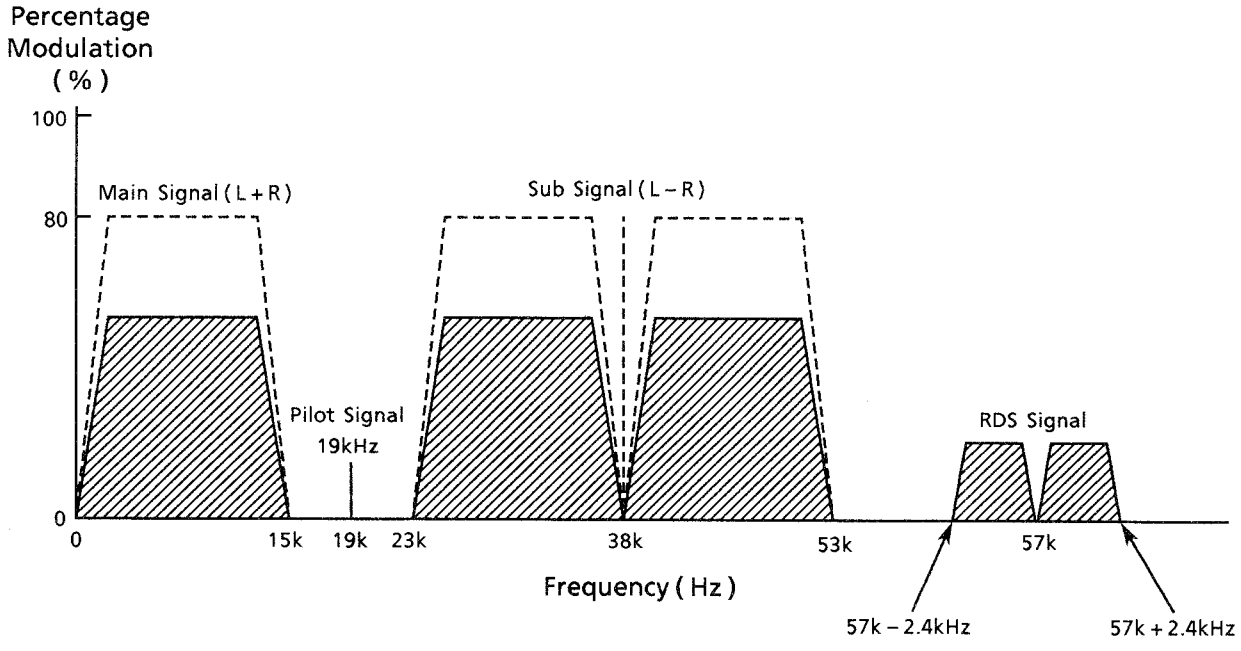
RDS (Radio Data System) means the system to transmit control signal such as frequency information for tuning, traffic information and so on.
RDS signal which is DSB modulated at sub carrier frequency of 57kHz is FM modulated into main carrier signal.

Table-1 shows the details for RDS signal.

Figure 1 shows the frequency spectrum at RDS signal and stereo modulated (composite) signal.

[Table-1] RDS signal's Specification

	Item	Specification
Modulation Form	Sub Carrier Frequency	57kHz
	Sub Carrier Modulation Form	Duble Sideband Carrier Suppression Amplitude Modulation
	Frequency Deviation	RDS only : ±2kHz TRI: ±1.2kHz
	Data Modulation Form	Two Phase PSK (Phase Shift Keying)
	Data Coding Form	Differential Coding
	Occupied Bandwidth	57kHz ± 2.4kHz(√100%cosine roll off Characteristic
Data Form	Bit late	1,187.5bit/s
	Error correcting	(26,16) Reduction Cyclic Code
	1 Block	26bit
	1 Group	104bit (4 block)
	Synchronism Form	Offset ward



[Fig. 1] Frequency Spectrum at RDS signal & Stereo modulated Signal

RX-G70RBK

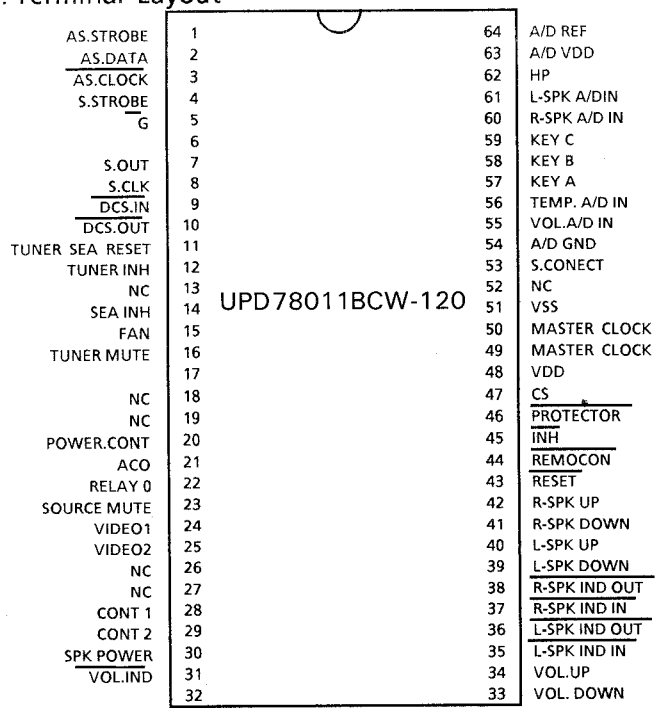
– Contents–

Discription of Major LSIs 2-2
Internal Connections of the FL Display Tube 2-8
Disassembly Procedures 2-9
Adjustment Procedures 2-10
Block Diagram 2-11
Schematic Diagrams ..... Insertion
Printed Circuit Boards ..... Insertion

Description of ICs

■ UPD78011BCW-120(IC701): System controller

1. Terminal Layout



2. Key input (KEY A~C)

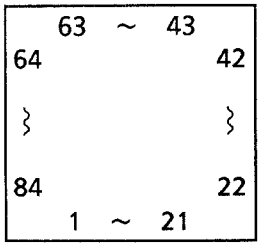
KEY A	KEY B	KEY C
AI LOUDNESS	SOURCE DIRECT	TUNER ENTRY
VIDEO	VTR	AI SLEEP
CD/CDG	PHONO	—
AUX	TUNER	—
TAPE	POWER	—

3. Terminal Description

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	AS STROBE	O	Strobe for data transmission to IC201	33	VOL.DOWN	O	Volume control signal
2	AS DATA	O	Data to IC201	34	VOL UP	O	Volume control signal
3	AS CLOCK	O	Clock for data transmission	35	L-SPK IND IN	O	Inner indication of left panorama speaker
4	S. STROBE	O	Strobe for IC902 and 903	36	L-SPK IND OUT	O	Outer indication of left panorama speaker
5	G	O	Enable for IC902 and 903	37	R-SPK IND IN	O	Inner indication of right panorama speaker
6	—	--	Connected to GND	38	R-SPK IND OUT	O	Outer indication of right panorama speaker
7	S.OUT	O	Data for IC902 and 903	39	L-SPK DOWN	O	Panorama speaker control
8	S. CLK	O	Data latch clock for IC902 and 903	40	L-SPK UP	O	Panorama speaker control
9	DCS IN	I	Compulink signal input	41	R-SPK DWON	O	Panorama speaker control
10	DCS OUT	O	Compulink signal output	42	R-SPK UP	O	Panorama speaker control
11	TU./SEA RESET	O	Reset signal for tuner and sea	43	RESET	I	Reset signal
12	TUNER INH	O	Inhibit signal for tuner controller	44	REMOCON	I	Remote control signal input
13	—	--	Non connection	45	INH	I	Inhibit signal input
14	SEA INH	O	Inhibit for sea controller	46	PROTECTOR	I	Input from protector
15	FAN	O	Fan control signal	47	CS	I	Chip select
16	TUNER MU.	O	Tuner muting signal	48	VDD	--	Power supply
17	—	--	Connected to GND	49	M. CLOCK	--	Oscillation terminal
18	NC	--	Non connection	50	M. CLOCK	--	Oscillation terminal
19	NC	--	Non connection	51	VSS	--	GND
20	P.CONT	O	Power on : H (Cassette deck , SEA)	52	—	--	Non connection
21	ACO	O	Regulator control (Power on : H)	53	S.CONNECT	--	Connected to +5V
22	RELAY 0	O	Relay control signal for main speaker	54	A/D GND	--	GND
23	SOURCE MUTE	O	Mute (Power on/off , Changing source)	55	VOL A/D IN	I	Observing the position of master volume
24	VIDEO1	O	Video selector control	56	TEMP A/D IN	I	Sensing temperature
25	VIDEO2	O	Video selector control	57	KEY A	I	Key input
26	—	--	Non connection	58	KEY B	I	Key input
27	—	--	Non connection	59	KEY C	I	Key input
28	CONT 1	O	Source selector control (IC203)	60	R-SPK A/D IN	I	Observing the position of the right speaker
29	CONT 2	O	Source selector control (IC203)	61	L-SPK A/D IN	I	Observing the position of the left speaker
30	SPK POWER	O	Power control for panorama speaker	62	HP	I	Observing the connect of the headphone
31	VOL IND	O	Indication control	63	A/D VDD	--	Power supply for inner A/D converter
32	—	--	Connected to GND	64	A/D REF	I	Reference voltage for inner A/D converter

■ MN172412JYL (IC901) : Tuner controller

1.Terminal Layout



2.Key Matrix

	KEY IN 0 (PIN56)	KEY IN 1 (PIN57)	KEY IN2 (PIN58)	KEY IN3 (PIN59)
KEY OUT 0 (PIN60)	WAKE-UP / SLEEP	ONCE TIMER	DAILY TIMER	REC TIMER
KEY OUT 1 (PIN61)	DISPLAY MODE	CLOCK ADJ	CANCEL	MEMORY
KEY OUT 2 (PIN63)	UP	DOWN	PRESET UP	PRESET DOWN
KEY OUT 3 (PIN64)	—	—	—	—
KEY OUT 6 (PIN66)	PTY. TP SEARCH CHARCTERSET	FM MODE	FM	AM
KEY OUT 7 (PIN67)	BAND0	BAND1	LW 9K/10K	LW2 12/24H

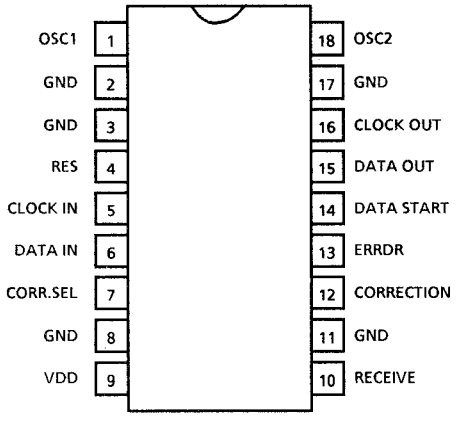
3.Pin Functions

Pin NO.	Symbol	I/O	Function
1,2	G2~G1	O	Grid control signal
3	NC	--	Non connection
4~22	35S~17S	O	Segment control signal
23	- BP	--	Power supply for FL display
24~39	16S~1S	O	Segment control signal
40	CE	O	Chip enable signal output
41	CLK	O	Clock for data transmission
42	DATA IN	I	Data from PLL synthesizer
43	DATA OUT	O	Data for PLL synthesizer
44	fout	O	Frequency for the clock
45	RCK	I	Clock for RDS
46	RDATA	I	Data for RDS
47	R-RST	O	Reset for RDS
48	INH	I	Inhibit signal input
49	D-ST	I	RDS data start
50	TUNED	I	Indication control signal
51	STEREO	I	Indication control signal

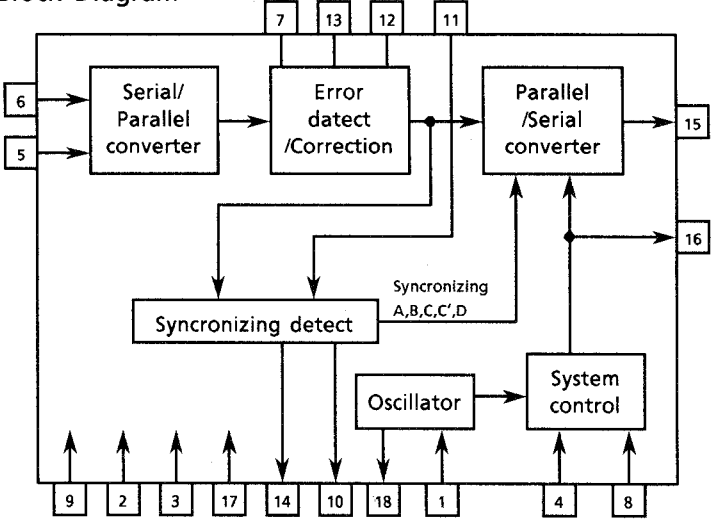
Pin NO.	Symbol	I/O	Function
52	MUTE	--	Non connection
53	NC	--	Non connection
54,55	DCS OUT/IN	I/O	Compulink signal
56~59	KIN0~KIN3	I	Key matrix input
60~67	KOUT0 ~KOUT7	O	Key matrix output
68	RST	I	Reset signal input
69	X1	--	Connected to GND
70	X2	--	Non connection
71	VSS	--	GND
72,73	OSC2/OSC1	--	Oscillation terminal
74	VDD	--	Power supply
75	S60R/G70R	--	Connected to GND
76	TEST	I	Test mode terminal
77	G10(NC)	--	Non connection
78~84	G3~G9	O	Grid control signal

■ LC7073M (IC191) : Radio Data System

1. Terminal Layout



2. Block Diagram



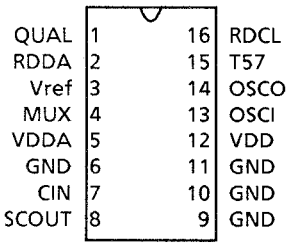
3. Pin Functions

Pin No.	Symbol	I/O	Function
1,18	OSC1,OSC2	I/O	Oscillation terminal
2,3,8, 11,17	GND	—	GND
4	RES	I	Reset input
5	CLOCK IN	I	RDS clock input
6	DATA IN	I	RDS data input
7	CORR.SEL	I	Non connection
9	VDD	—	Power supply

Pin No.	Symbol	I/O	Function
10	RECEIVE	—	Non connection
12	CORRECTION	—	Non connection
13	ERRDR	—	Non connection
14	DATA START	O	Data start signal for block data to output serial data.
15	DATA OUT	O	Serial data output
16	CLOCK OUT	O	Data output of serial data output

■ SAA6579T (IC192) : Radio data system demodulator

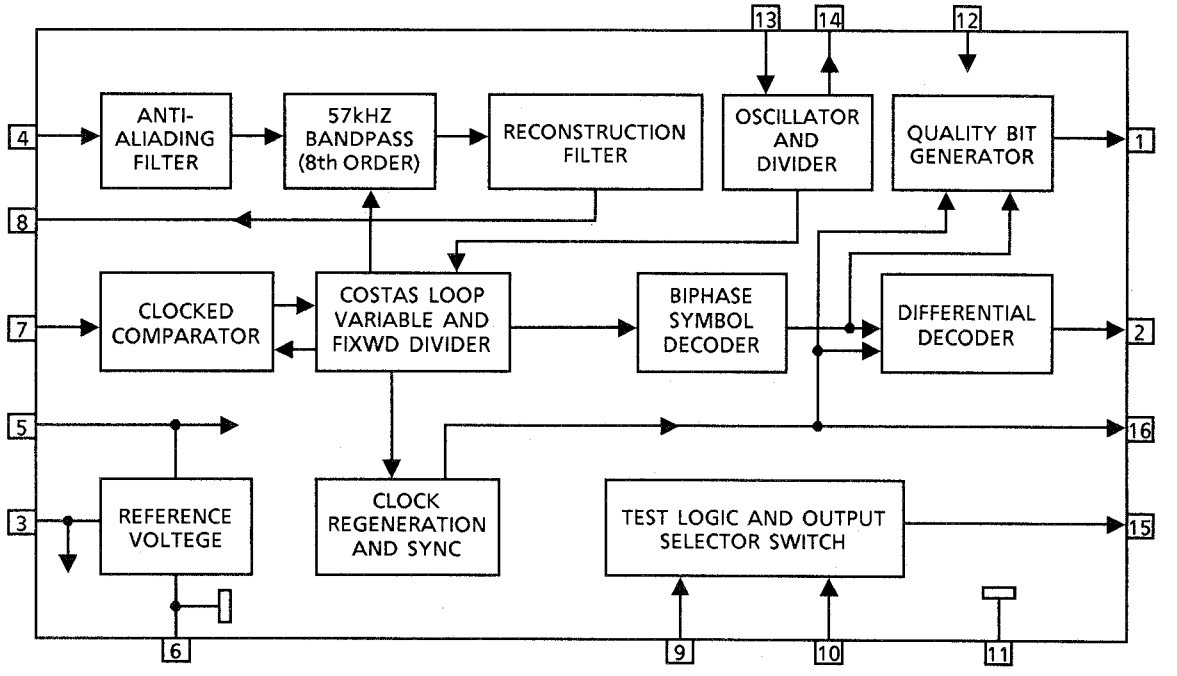
1. Terminal Layout



2. Pin Function

Pin No.	Symbol	I/O	Function
1	QUAL	—	Non connection
2	RDDA	O	RDS data output
3	Vref	O	Reference voltage output
4	MUX	I	Multiplex signal input
5	VDDA	—	+5V supply voltage for analog part
6	GND	—	Ground for analog part (0V)
7	CIN	I	Subcarrier input to comparator
8	SCOUT	O	Subcarrier output of reconstruction filter
9	GND	—	Ground for digital part (0V)
10	GND	—	Ground for digital part (0V)
11	GND	—	Ground for digital part (0V)
12	VDD	—	+5V supply voltage for digital part
13	OSCI	I	Oscillator input
14	OSCO	O	Oscillator output
15	T57	—	Non connection
16	RDCL	O	RDS clock output

3. Block Diagram

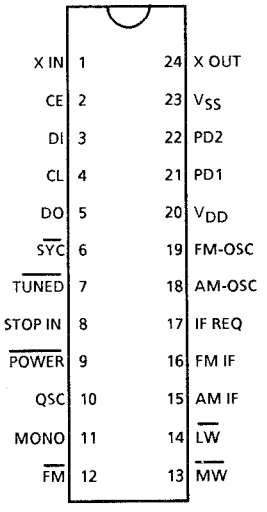


■ LC7218 (IC121) : PLL Synthesizer

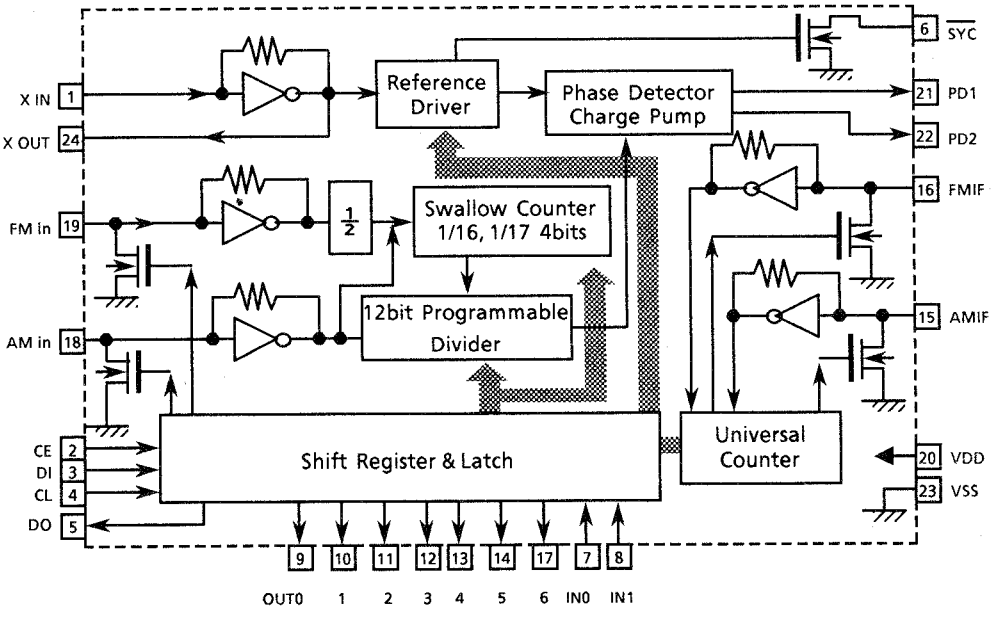
1. The main function descriptions

(1) It makes the local oscillation frequency by the control data from IC201.
(2) Decode the control signal and transmit the signal for receiving conditions.
(3) For the best tuning, count the internal-frequency and transmit the data to IC201.

2. Terminal Layout



3. Block Diagram

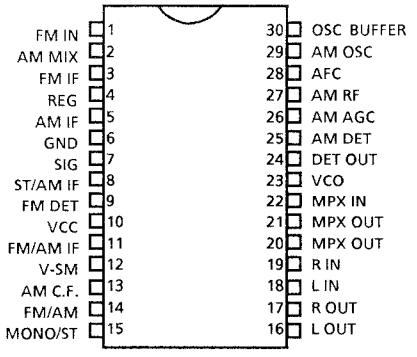


4. Pin Functions

Pin No.	Symbol	I/O	Functions
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC201).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	—	Not used.
7	TUNED	I	Receive the tuned signal from IC102 (LA1836).
8	STOP IN	—	Connected to GND
9	POWER	—	Not used.
10	QSC	—	Not used.
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC102 (LA1836).
16	FM-IF	I	Universal counter input for FM-IF from IC102(LA1836).
17	IF REQ	O	Output the "IF-signal request" to IC102 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	—	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	—	Not used.
23	Vss	—	Connected to GND

■ LA1836M (IC102) : FM AM IF AMP & detector

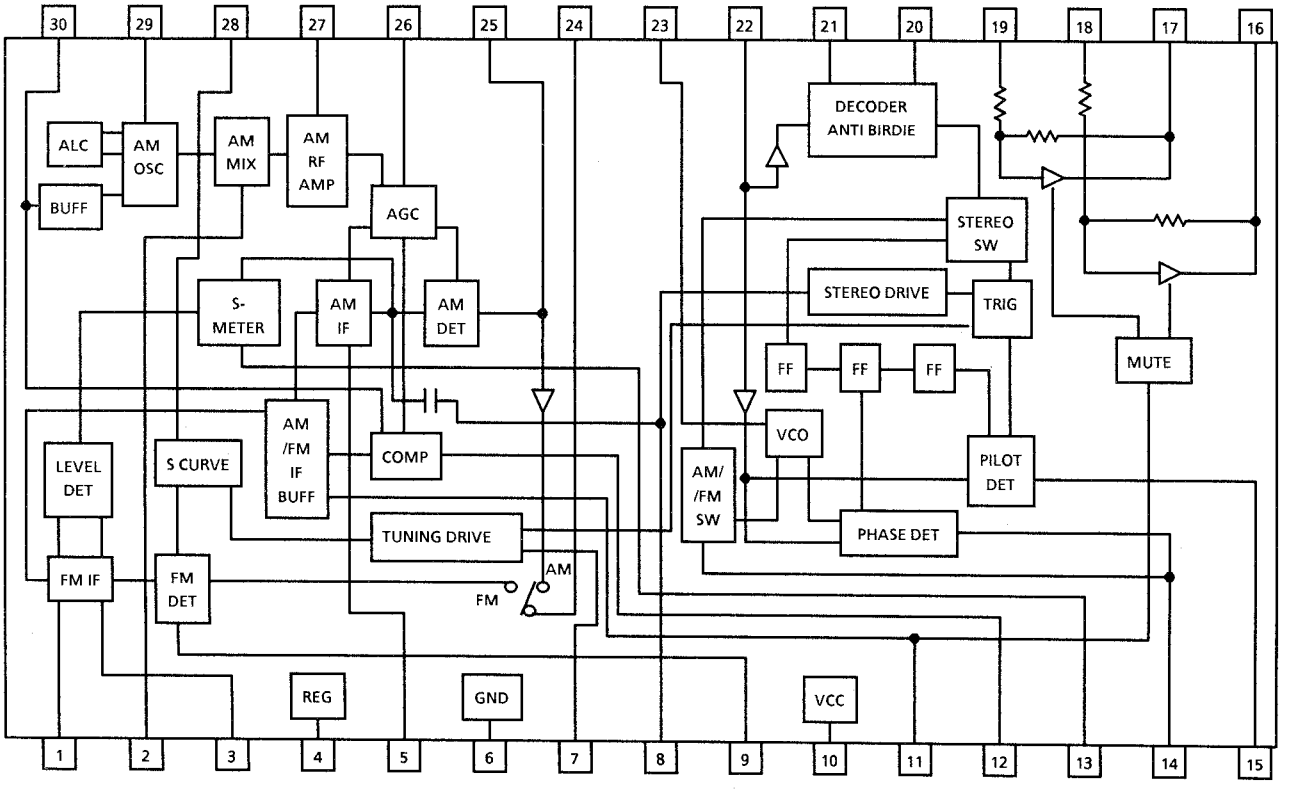
1. Terminal Layout



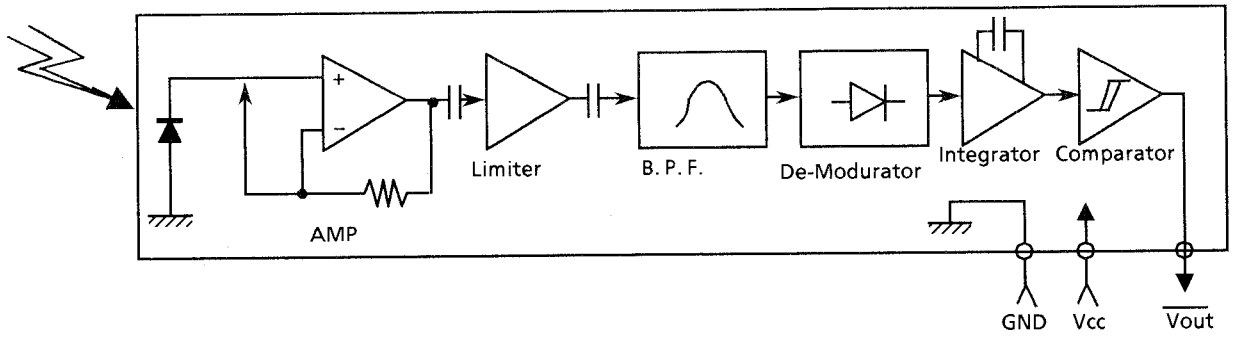
3. Pin Function

Pin No.	Symbol	I/O	Function
1	FM IN	I	This is an input terminal of FM IF Signal.
2	AM MIX	O	This is an output terminal for AM mixer.
3	FM IF	I	Bypass of FM IF
4	REG	—	Register value between pin4 and pin28 desides the frequency width of the input signal.
5	AM IF	I	Input of AM IF Signal.
6	GND	—	This is the device ground terminal.
7	SIG	O	When the set is tunning , this terminal becomes "L".
8	ST/AM IF	O	Stereo indicator output. Stereo : "L", Mono : "H"
9	FM DET	—	FM detect transformer.
10	VCC	—	This is the power supply terminal.
11	FM/AM IF	O	When the signal of IF REQ of IC121(LC7218) appear, the signal of FM/AM IF output.
12	VSM	O	S Meter output and adjust AM SD sensitivity.
13	AM C.F.	I	This is a terminal of AM ceramic filter.
14	FM/AM	I	Change over the FM / AM input. "H" : FM, "L" : AM
15	MONO/ST	O	Stereo : "H", Mono : "L"
16	L OUT	O	Left channel signal output.
17	R OUT	O	Right channel signal output
18	L IN	I	Input terminal of the Left channel post AMP.
19	R IN	I	Input terminal of the Right channel post AMP.
20	MPX L OUT	O	Mpx Left channel signal output.
21	MPX R OUT	O	Mpx Right channel signal output.
22	MPX IN	I	Mpx input terminal.
23	VCO	I	Voltage controlled oscillator terminal.
24	DET OUT	O	AM/FM detection output.
25	AM DET	—	AM low cut adjustment.
26	AM AGC	I	This is an AGC voltage input terminal for AM.
27	AM RF	I	This is an input terminal for AM RF signal.
28	AFC	—	This is an output terminal of voltage for FM-AFC.
29	AM OSC	—	This is a terminal of AM Local oscillation circuit.
30	OSC BUFFER	O	AM Local oscillation Signal output.

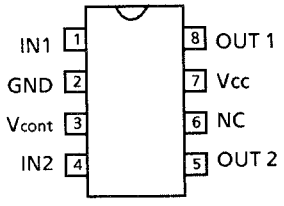
2. Block Diagram



■ GP1U901X(IC904): Receiver for Remote Controller



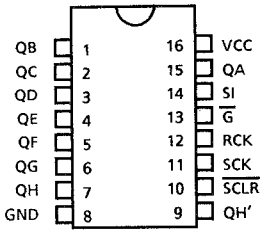
■ LB1639-CV (IC702, 703, 704) : Motor Driver



IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

■ TC74HC595AP(IC902,903) : 8-Bit Shift Register

1. Terminal Layout

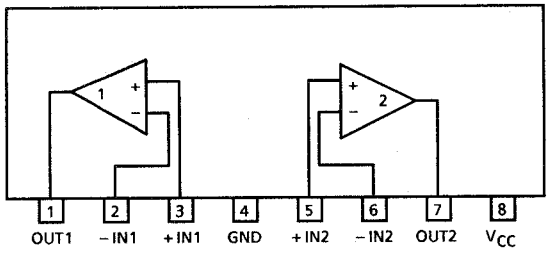


2. Function Table

Inputs					Functions
SI	SCK	$\overline{SCLR}$	RCK	$\overline{G}$	
X	X	X	X	H	Output (QA-QH) disable.
X	X	X	X	L	Output (QA-QH) enable.
X	X	L	X	X	Shift register is cleared.
L	↑	H	X	X	Condition of shift register in initial stage is "L". In the other stages, data from the former stage is stored.
H	↑	H	X	X	Condition of shift register in initial stage is "H". In the other stages, data from the former stage is stored.
X	↓	H	X	X	Shift register does not change.
X	X	X	↑	X	Shift register data is stored in the storage register.
X	X	X	↓	X	Storage register does not change.

X : Don't care

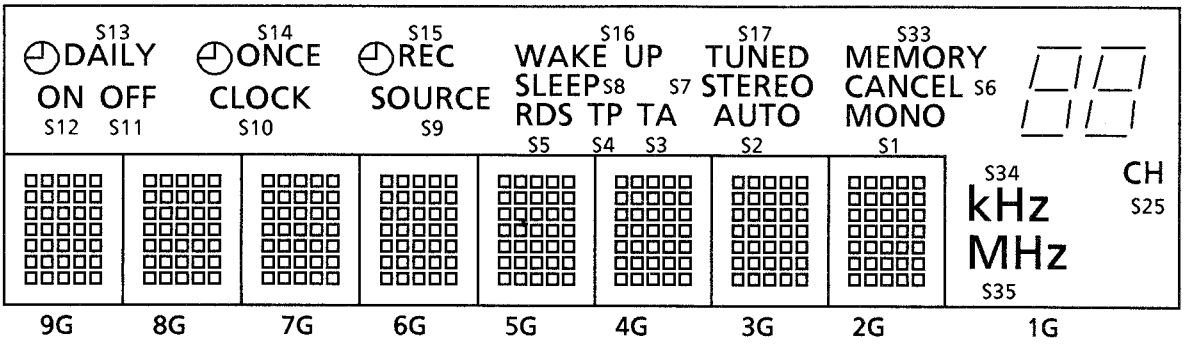
■ BA15218N (IC204) : Dual OP Amp

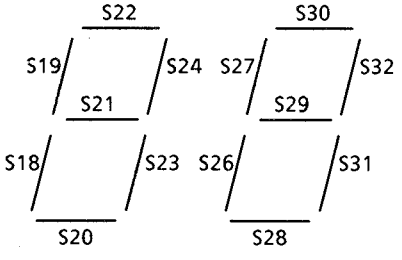


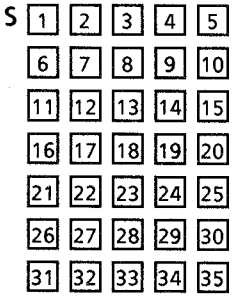
Internal Connections of FL Display

■ ELU0001-174:(FL201)

1. Grid Layout







2. Pin Connection

LOWER

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
ELECTRODE	F1	F1	F1	NP	P S1	P S2	P S3	P S4	P S5	P S6	P S7	P S8	P S9	P S10	P S11	P S12
TERMINAL NO.		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ELECTRODE		P S13	P S14	P S15	P S16	NP	P S17	P S18	P S19	P S20	P S21	P S22	NP	F2	F2	F2

UPPER

TERMINAL NO.	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
ELECTRODE	F2	F2	F2	NP	P S23	P S24	P S25	P S26	P S27	P S28	P S29	P S30	P S31	P S32	P S33	P S34
TERMINAL NO.		48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
ELECTRODE		P S35	1G	2G	3G	4G	5G	6G	7G	8G	9G	NP	NP	F1	F1	F1

Notes F : Filament G : Grid P : Anode NP : No PIN

Disassembly Procedures

■ Removing the metal cover

1. Remove the 2 screws Ⓐ fastening the both sides of the cover and 4 screws Ⓑ fixing the back of the cover to remove the cover.

■ Removing the front panel assembly

1. Remove the metal cover.
2. Remove the master volume knob to remove the nut fixing the volume. Disconnect the connector of the volume indicator at the same time.
3. Disconnect the connectors JB901, J302, J303, J304, J305 and J101.
4. Remove the screw Ⓒ and release the 3 hooks to remove the assembly.

■ Removing the rear panel

1. Remove the 16 screws Ⓓ.
2. Release the 2 hooks to remove the rear panel.

※ When installing the rear panel, arrange the wire from the fan so that the wire does not disturb the fan operation (Figure 2).

■ Removing the main circuit board

1. Remove the front panel assembly.
2. Disconnect the connectors JB801 and J803.
3. Remove the rear panel.
4. Remove the 7 screws fixing the main circuit board to remove the circuit board.(If neccesary, remove the circuit boards on the main circuit board.)

■ Removing the front circuit board

1. Remove the front panel assembly.
2. Remove the balance (echo level) and twin bass knobs.
3. Remove the 8 screws Ⓕ fixing the front circuit board to remove the circuit board.

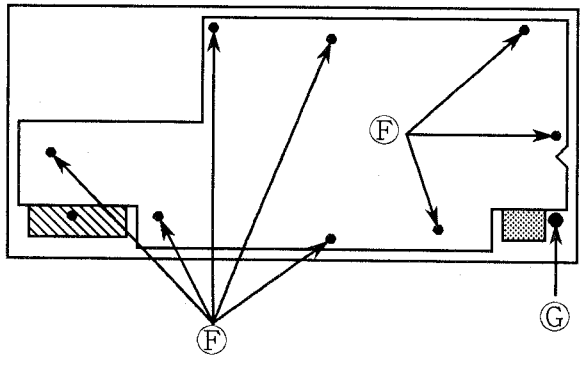


Figure 4 Behind the front panel assembly

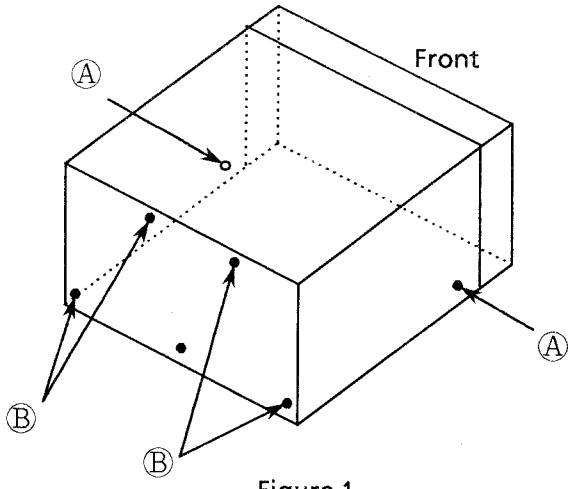


Figure 1

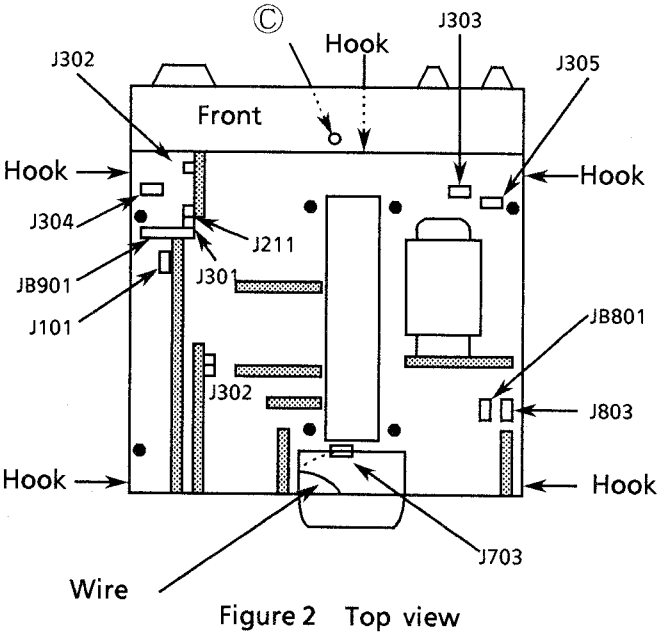


Figure 2 Top view

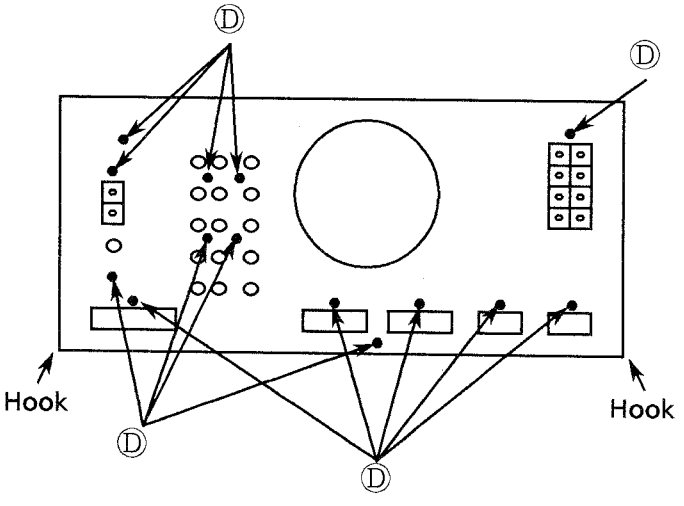
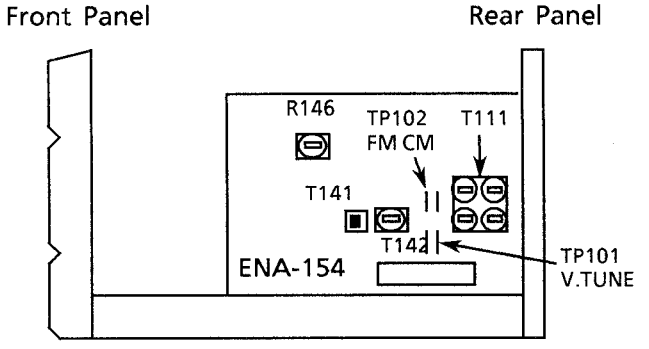


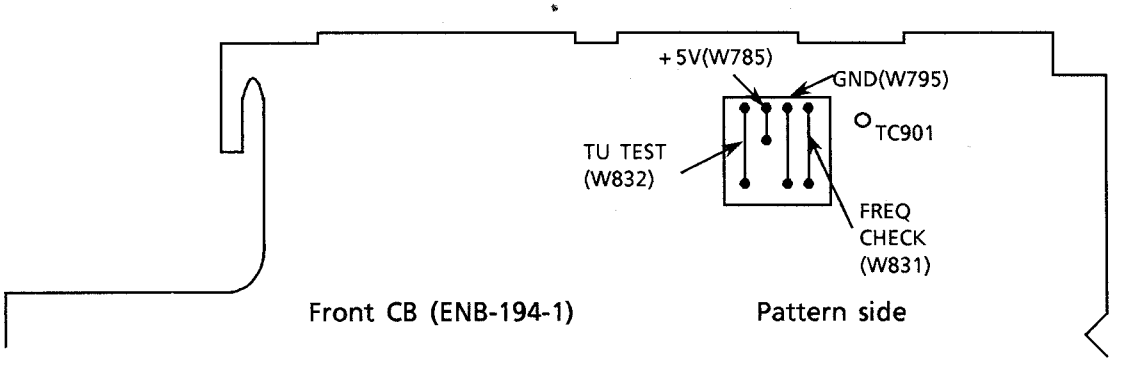
Figure 3 Rear panel

Adjustment Procedures



Clock Adjustment

1. After connecting W832 and W785 with some wire as shown in the figure below, connect the ac power cord into an ac outlet.
2. Confirm that the display is off and remove the wire.
3. Connect a frequency counter to W931 and W795.
4. Adjust TC901 so that the frequency becomes 50000±0.29Hz.



(1) Tuning voltage

Confirm the voltages at TP101 is within the standard values shown in the table below. If the voltages are not satisfied, replace T111 for MW and for LW or FE101 for FM.

FM Tuning voltage (Unit : V)

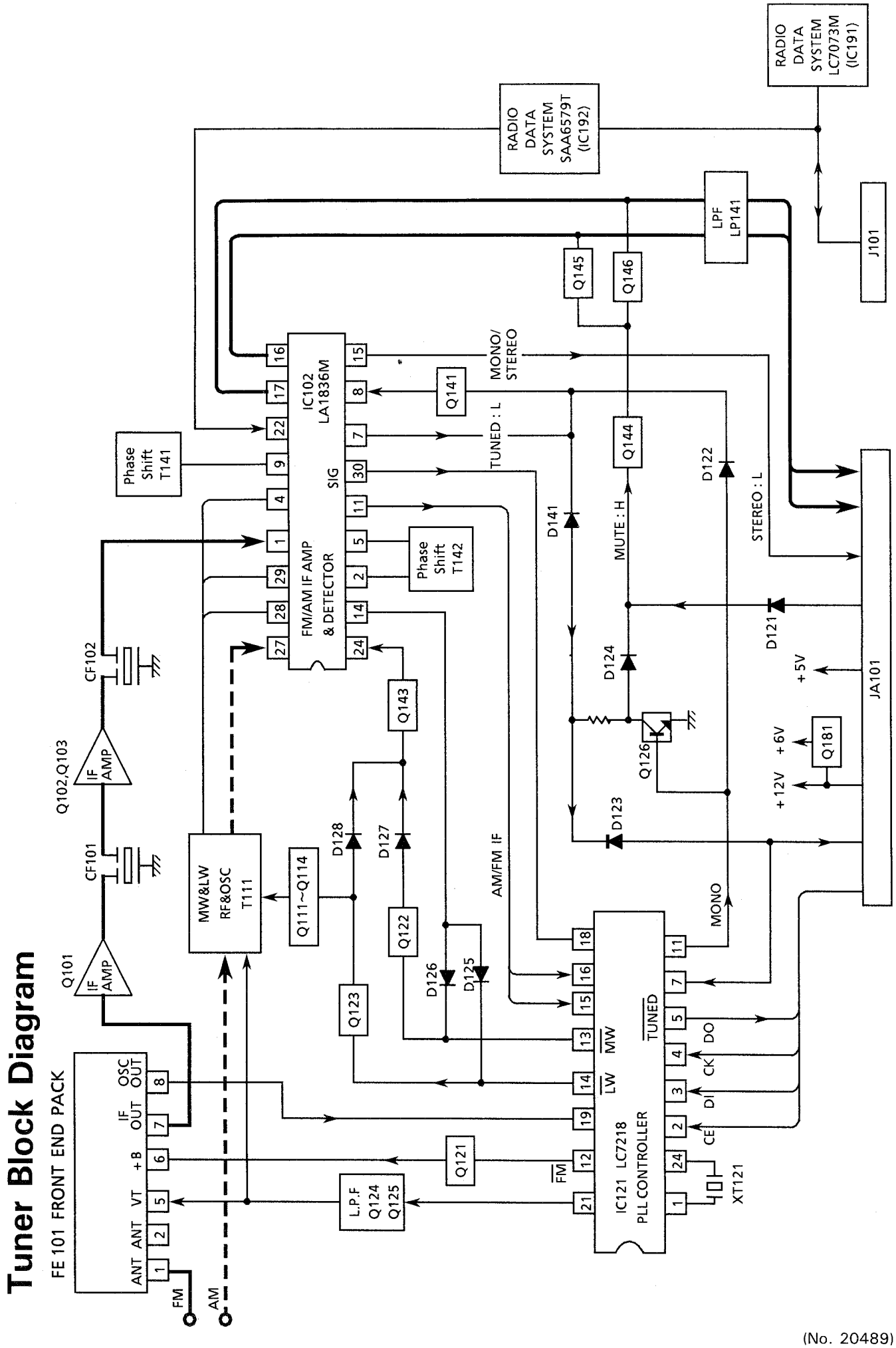
Area	Frequency	
	87.5MHz	108MHz
Continental Europe	1.6±1.0 (V)	8.0±2.0 (V)

AM Tuning voltage (Unit : V)

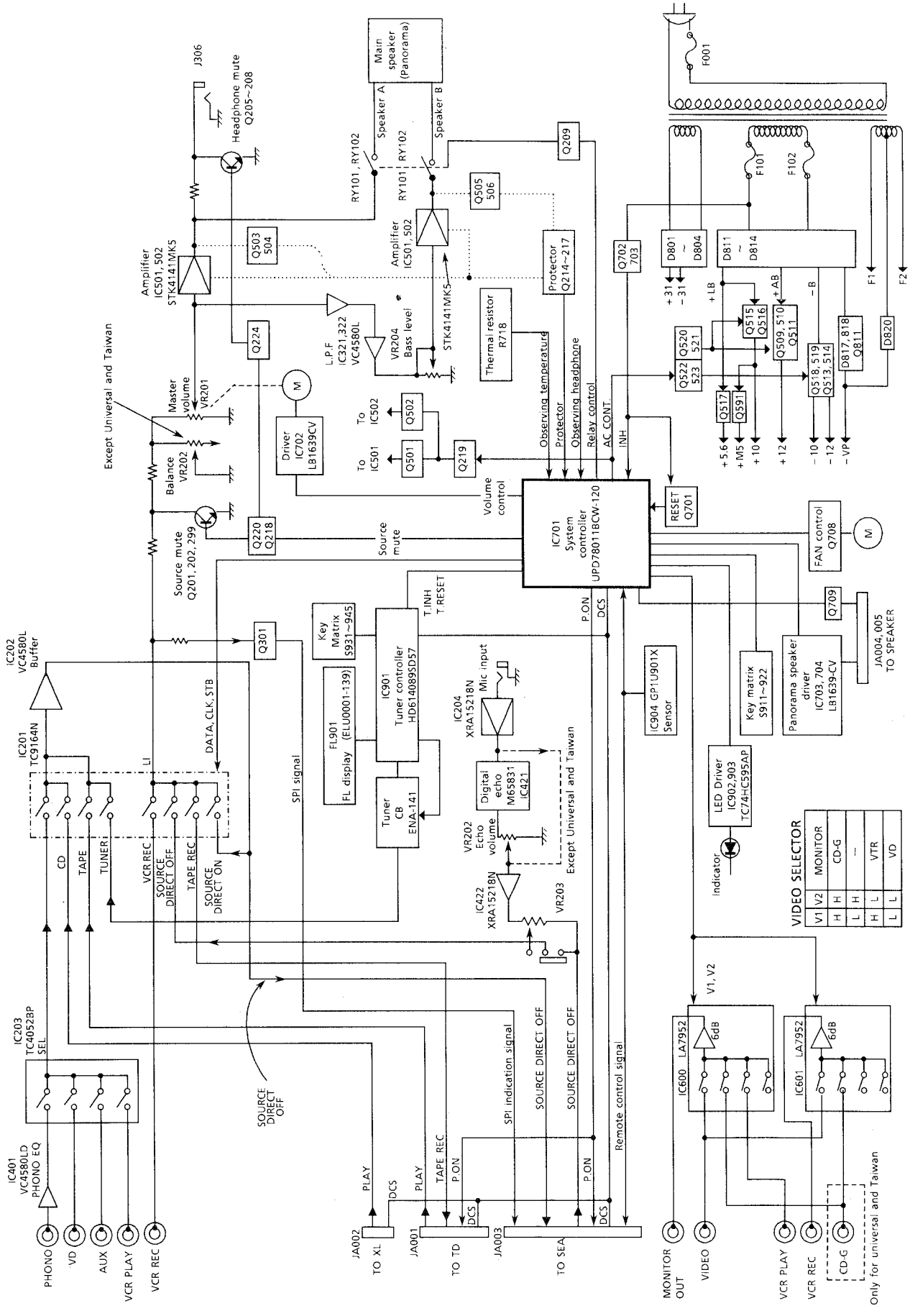
Area	Frequency (MW)		Frequency (LW)	
	522KHz	1629KHz	144kHz	288kHz
Continental Europe	1.0 〉 0.5	7.5 〈 8.5	1.0 〉 0.5	5.0 〈 7.5

(2) FM center meter

Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T141 (detector coil) so that the voltage at TP102 becomes 0±1.5mV.

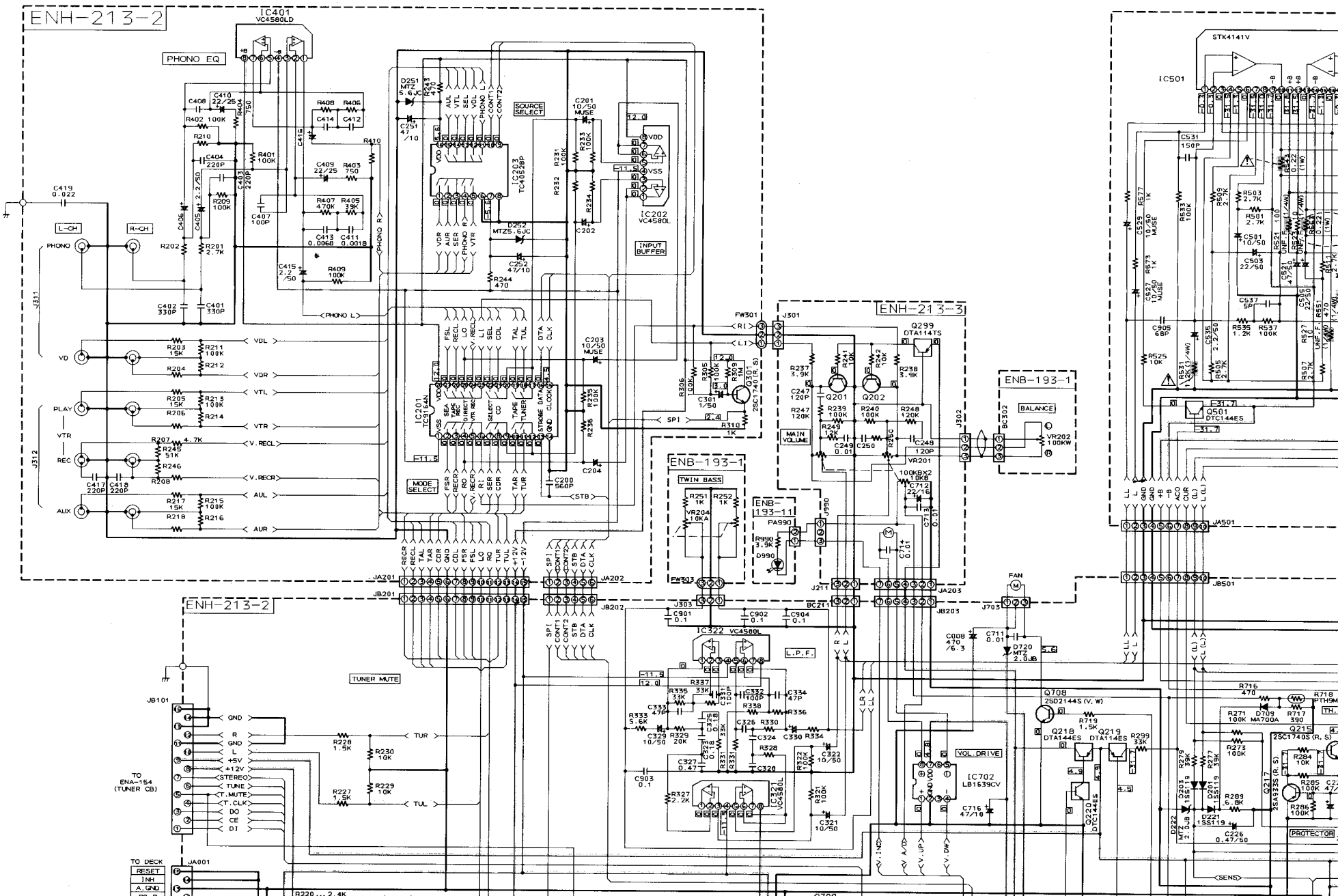

Tuner Block Diagram
FE 101 FRONT END PACK
ANT ANT VT +B IF OUT OSC OUT
FM
AM
Q101 IF AMP
Q102,Q103 IF AMP
CF101
CF102
MW&LW RF&OSC T111
Q111~Q114
IC102 LA1836M
FM/AM IF AMP & DETECTOR
SIG
Phase Shift T141
Phase Shift T142
Q141
Q143
Q144
Q145
Q146
LPF LP141
RADIO DATA SYSTEM SAA6579T (IC192)
RADIO DATA SYSTEM LC7073M (IC191)
J101
JA101
MONO/ STEREO
TUNED : L
STEREO : L
MUTE : H
D121
D122
D123
D124
D125
D126
D127
D128
D141
Q121
Q122
Q123
Q126
Q181
L.P.F Q124 Q125
AM/FM IF
MONO
IC121 LC7218 PLL CONTROLLER
TUNED
MW
LW
FM
DO
CK
DI
CE
XT121
+5V
+6V
+12V

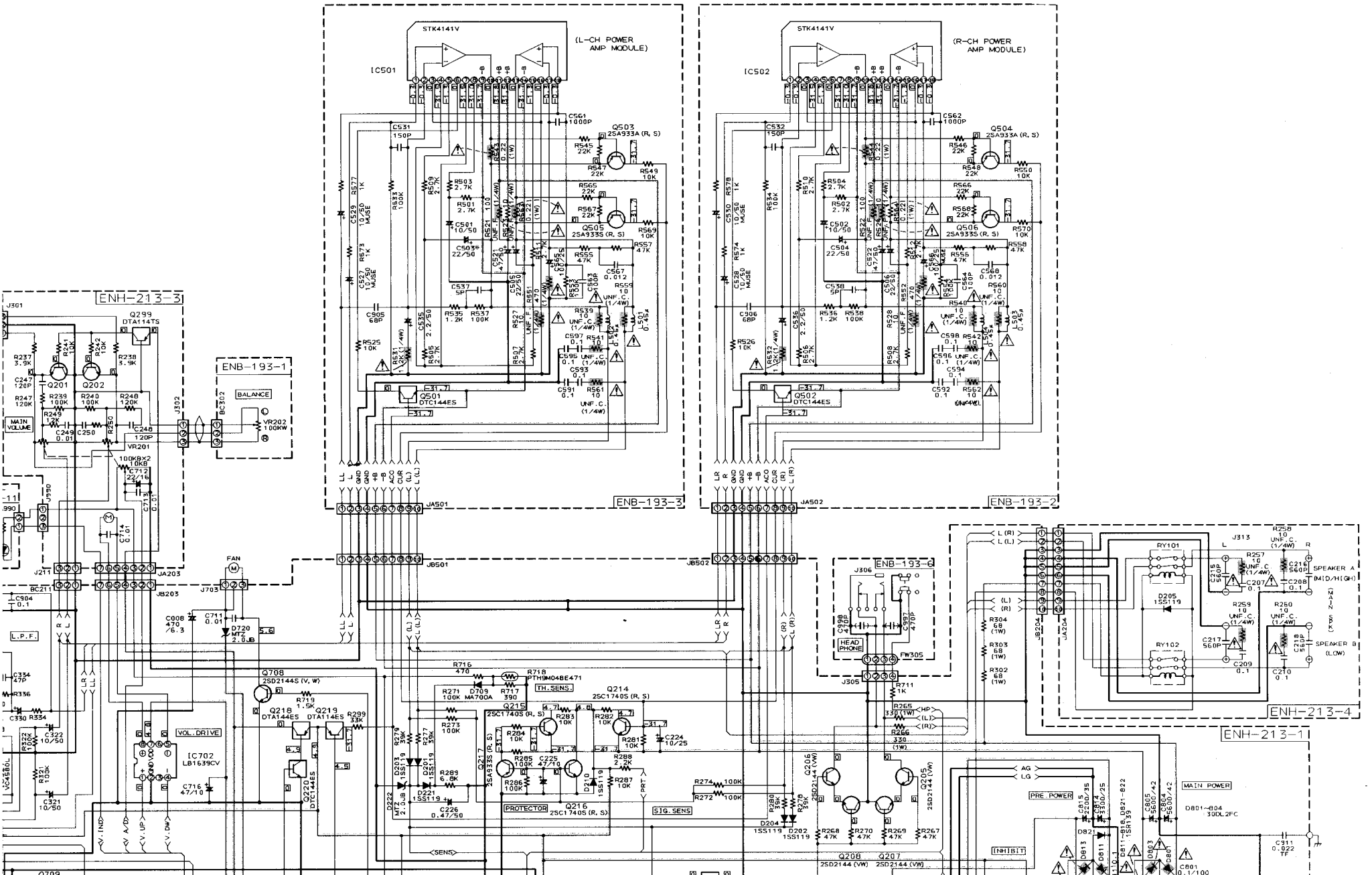
System Block Diagram

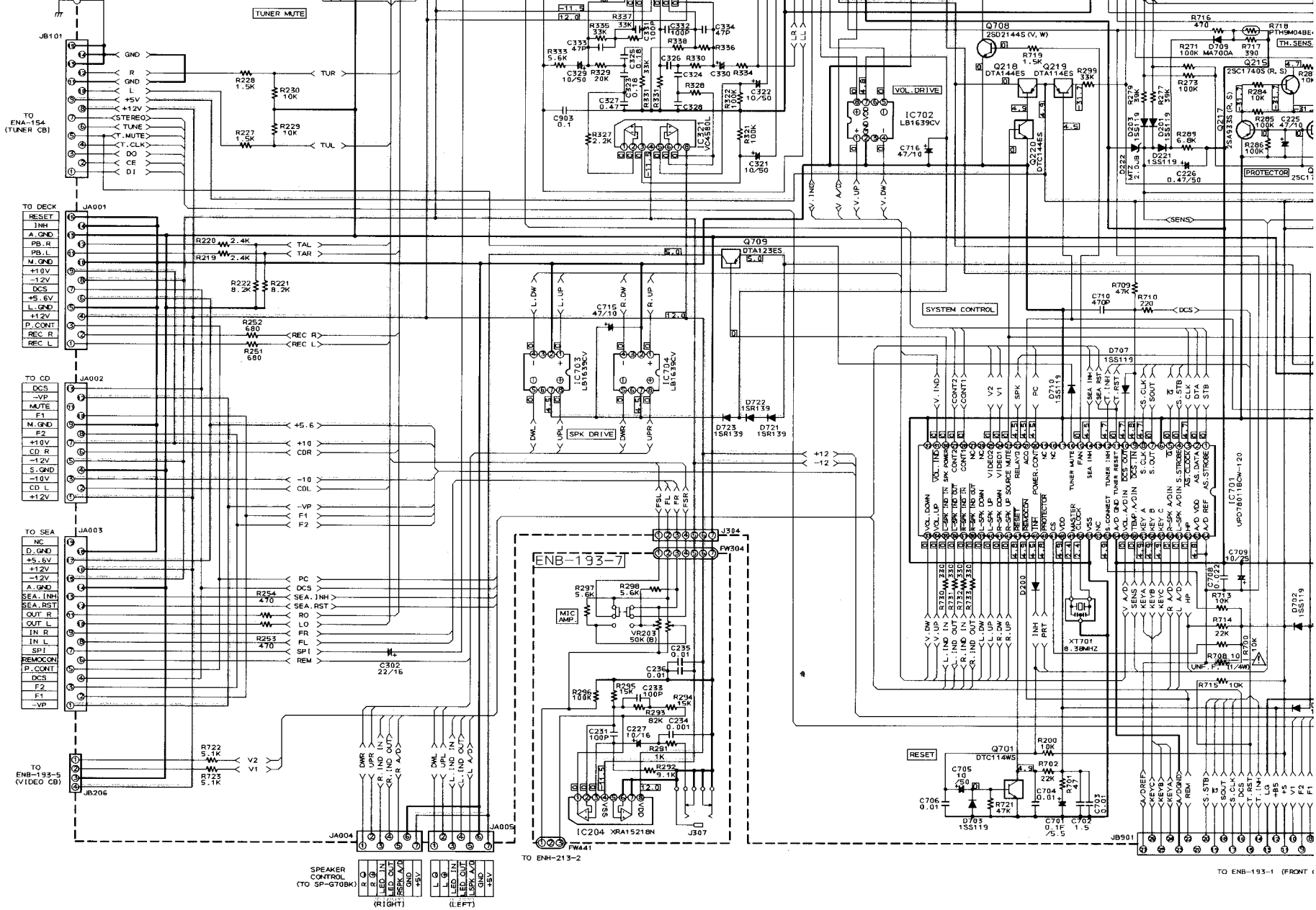


Schematic Diagrams

(1) Main, Input/Output & Power Amplifier Section

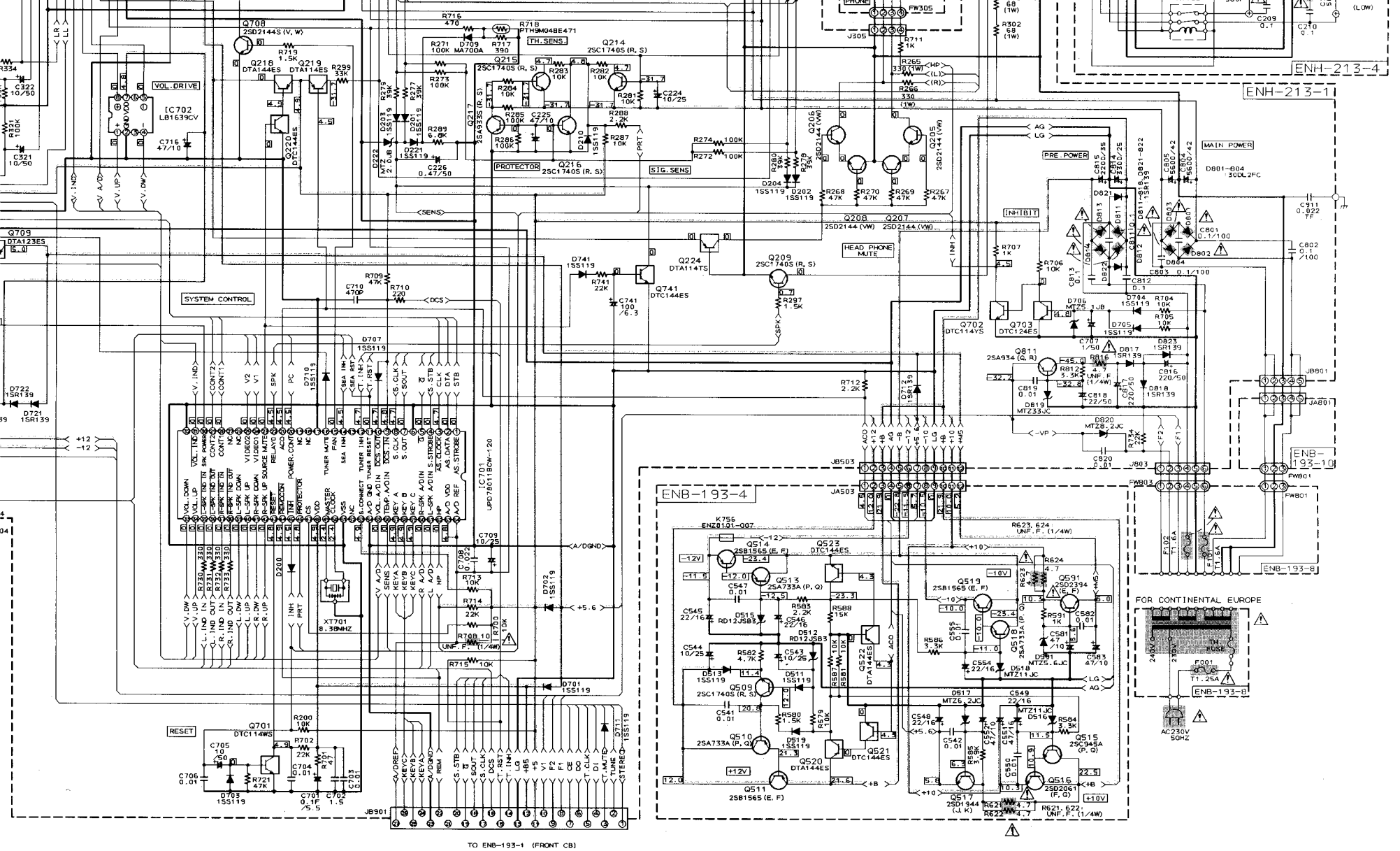



ENH-213-3
ENB-193-1
ENB-193-3
ENB-193-2
ENB-193-6
ENH-213-4
ENH-213-1
IC501
STK4141V
(L-CH POWER AMP MODULE)
IC502
(R-CH POWER AMP MODULE)
Q501 DTC144ES
Q502 DTC144ES
Q503 2SA933A (R, S)
Q504 2SA933A (R, S)
Q505 2SA933S (R, S)
Q506 2SA933S (R, S)
Q299 DTA114TS
Q201
Q202
VR201
VR202 100KW
BALANCE
MAIN VOLUME
JA501
JA502
JA203
JA204
JB501
JB502
JB203
J211
J703
J301
J302
J313
J306
J305
FW305
HEAD PHONE
FAN
L.P.F.
VOL.DRIVE
IC702 LB1639CV
Q708 2SD2144S (V, W)
Q218 DTA144ES
Q219 DTA114ES
Q220 DTC144ES
Q214 2SC1740S (R, S)
Q215 2SC1740S (R, S)
Q216 2SC1740S (R, S)
Q217 2SA933S (R, S)
TH.SENS.
PROTECTOR
SIG.SENS
SENS
Q206 2SD2144 (VW)
Q205 2SD2144 (VW)
Q208 2SD2144 (VW)
Q207 2SD2144 (VW)
PRE POWER
MAIN POWER
INHIBIT
D801-804 30DL2FC
RY101
RY102
SPEAKER A (MID/HIGH)
SPEAKER B (LOW)
D720 MT2 2.0JB
D709 MA700A
D222 MT2 2.0JB
IC501 IC502
V. IND
V. UP
V. DW
A/D



Notes:

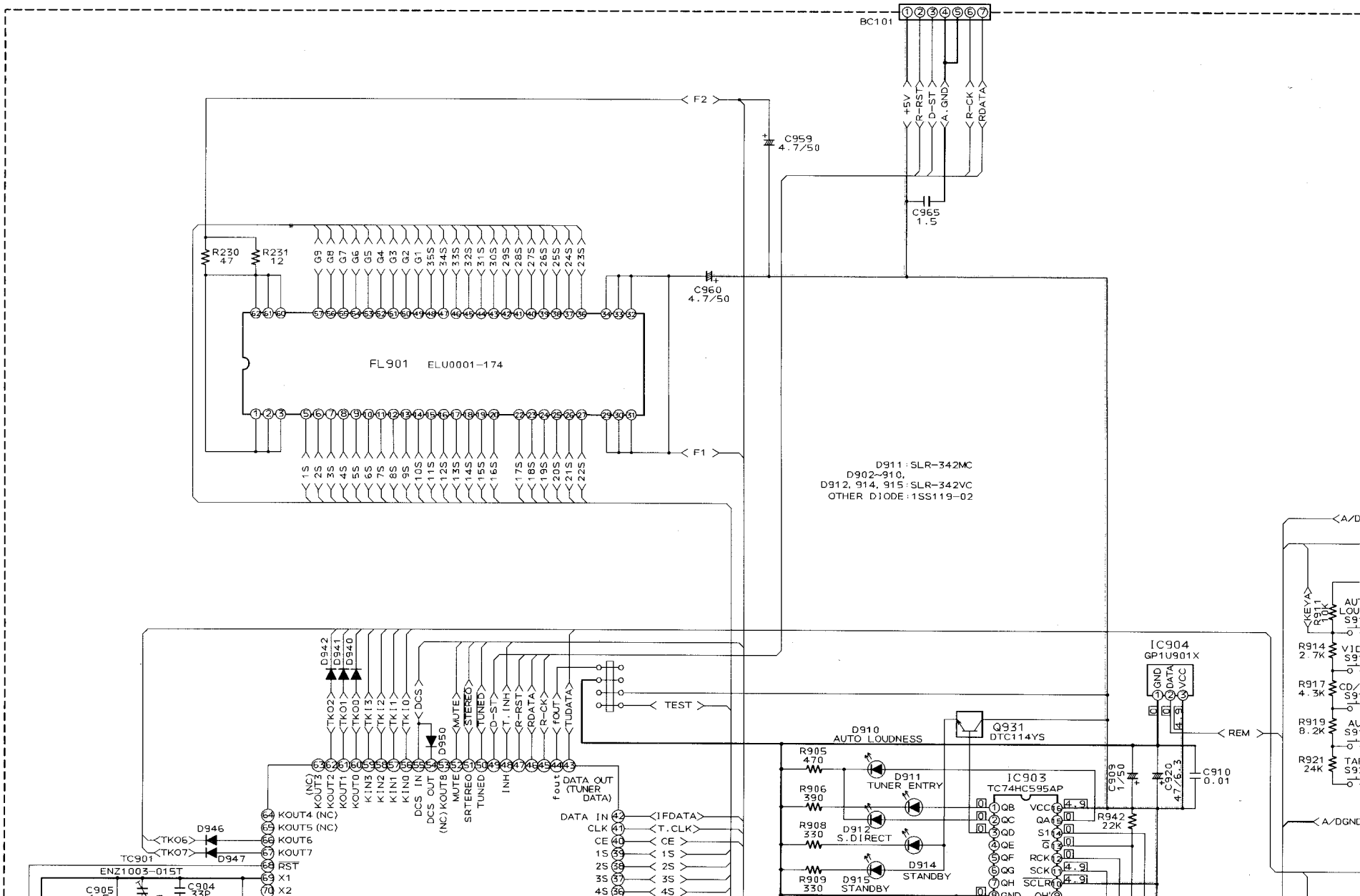
1. indicates +
2. indicates –
3. indicates m

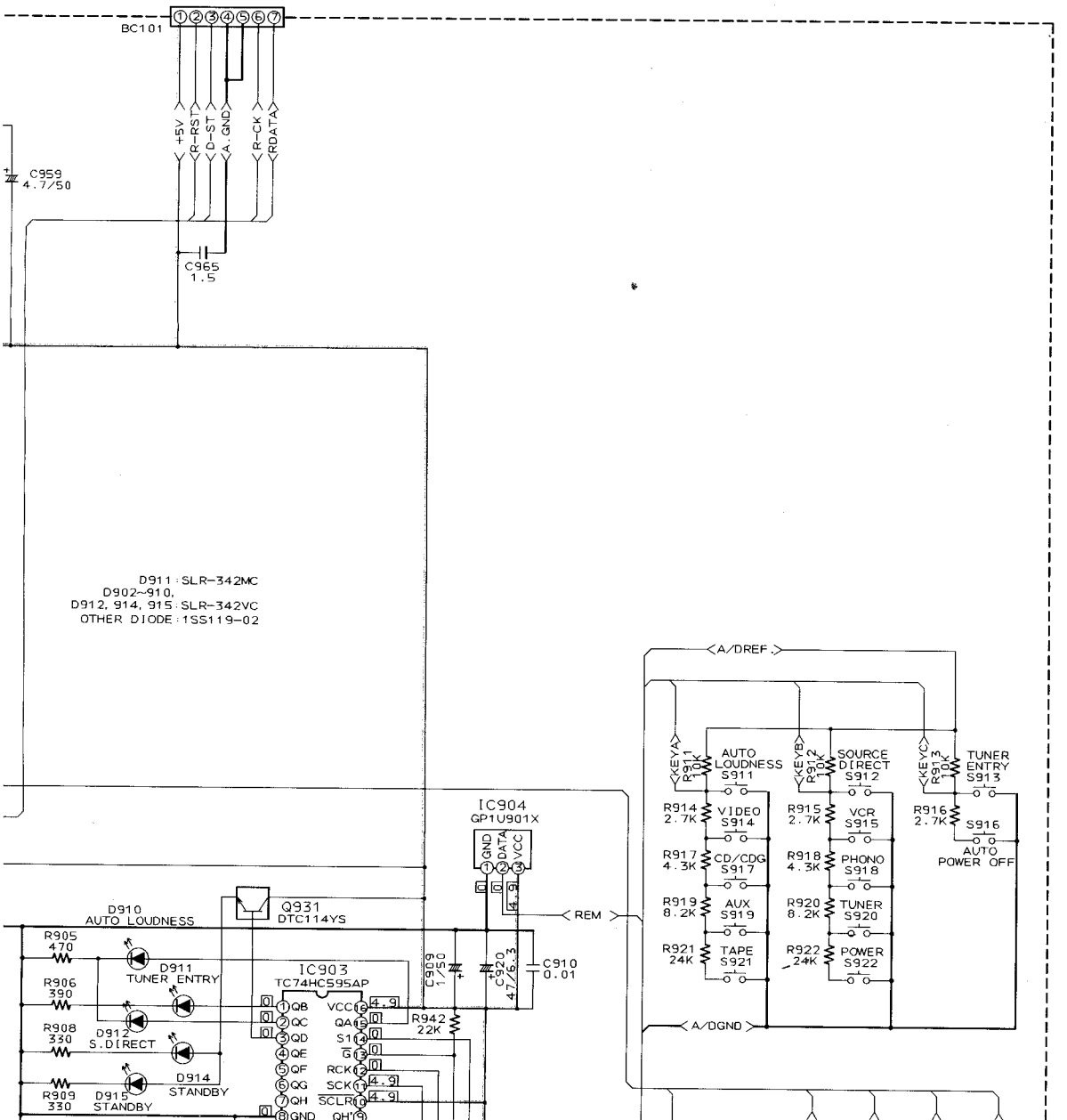


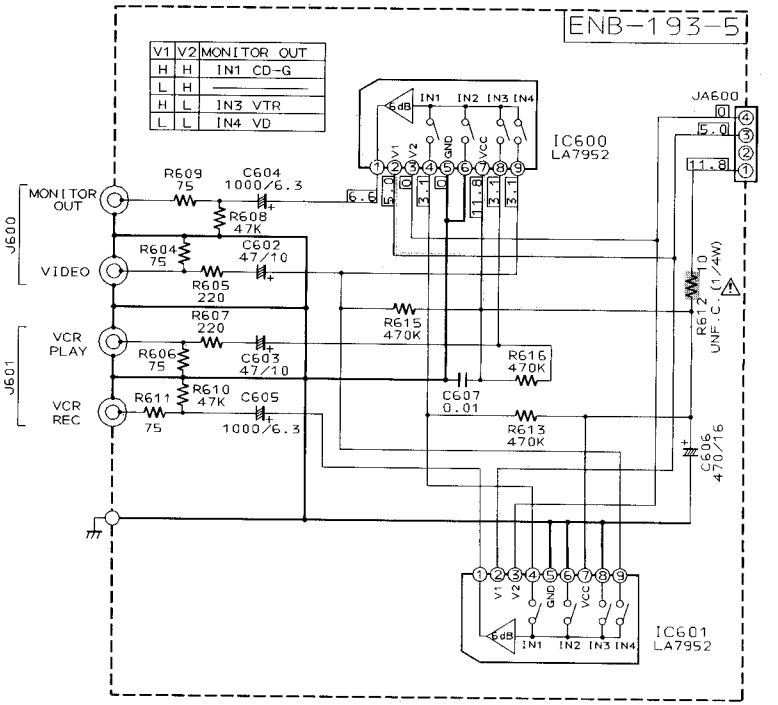
Notes:

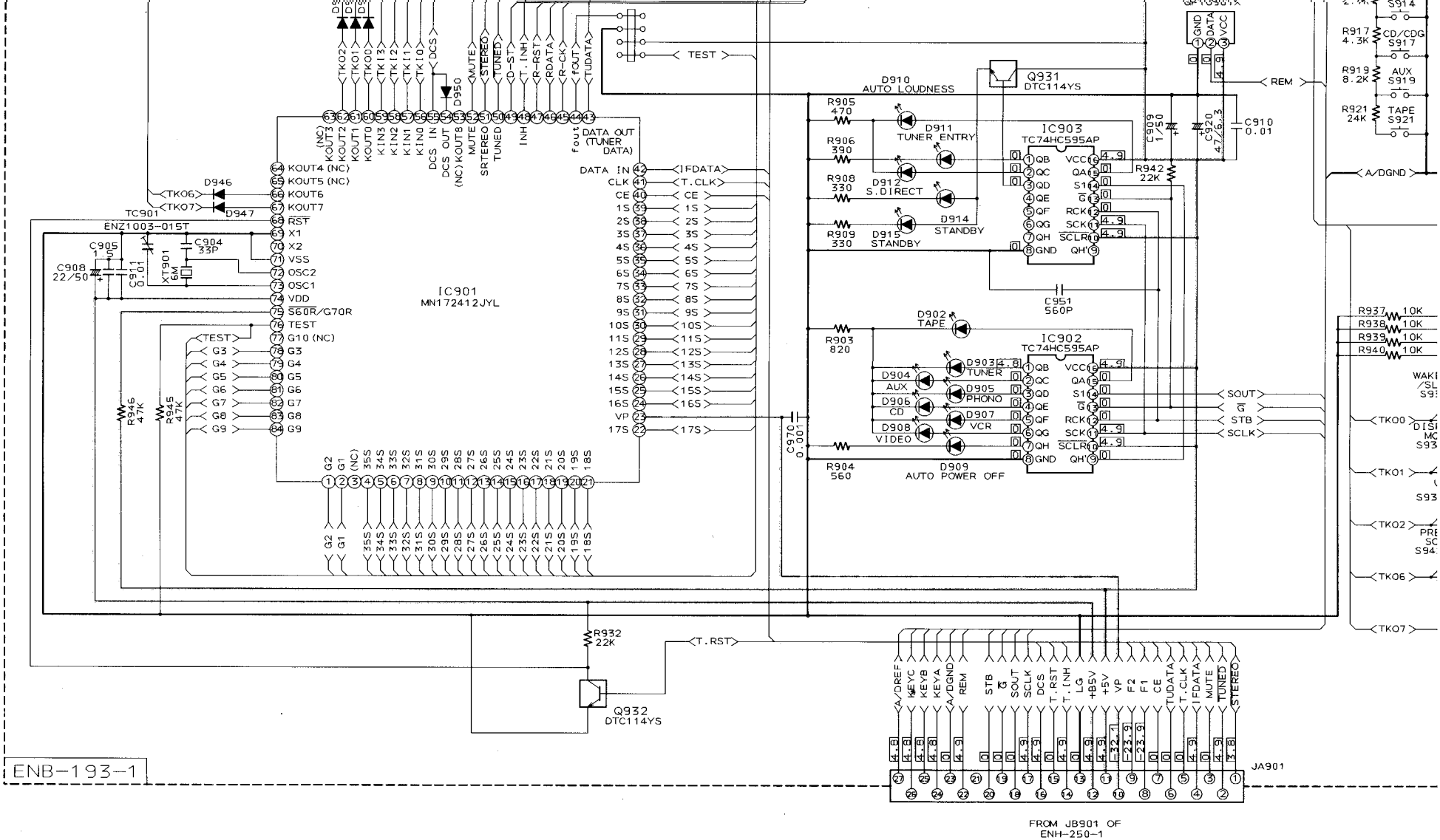
1. indicates +B power supply
2. indicates −B power supply.
3. indicates main path.
4. When replacing the parts in the shaded are ( ) and those marked with ⚠ , be sure to use the designated parts to ensure safety.
5. The design and contents are subject to change without notice.

(2) Front Section

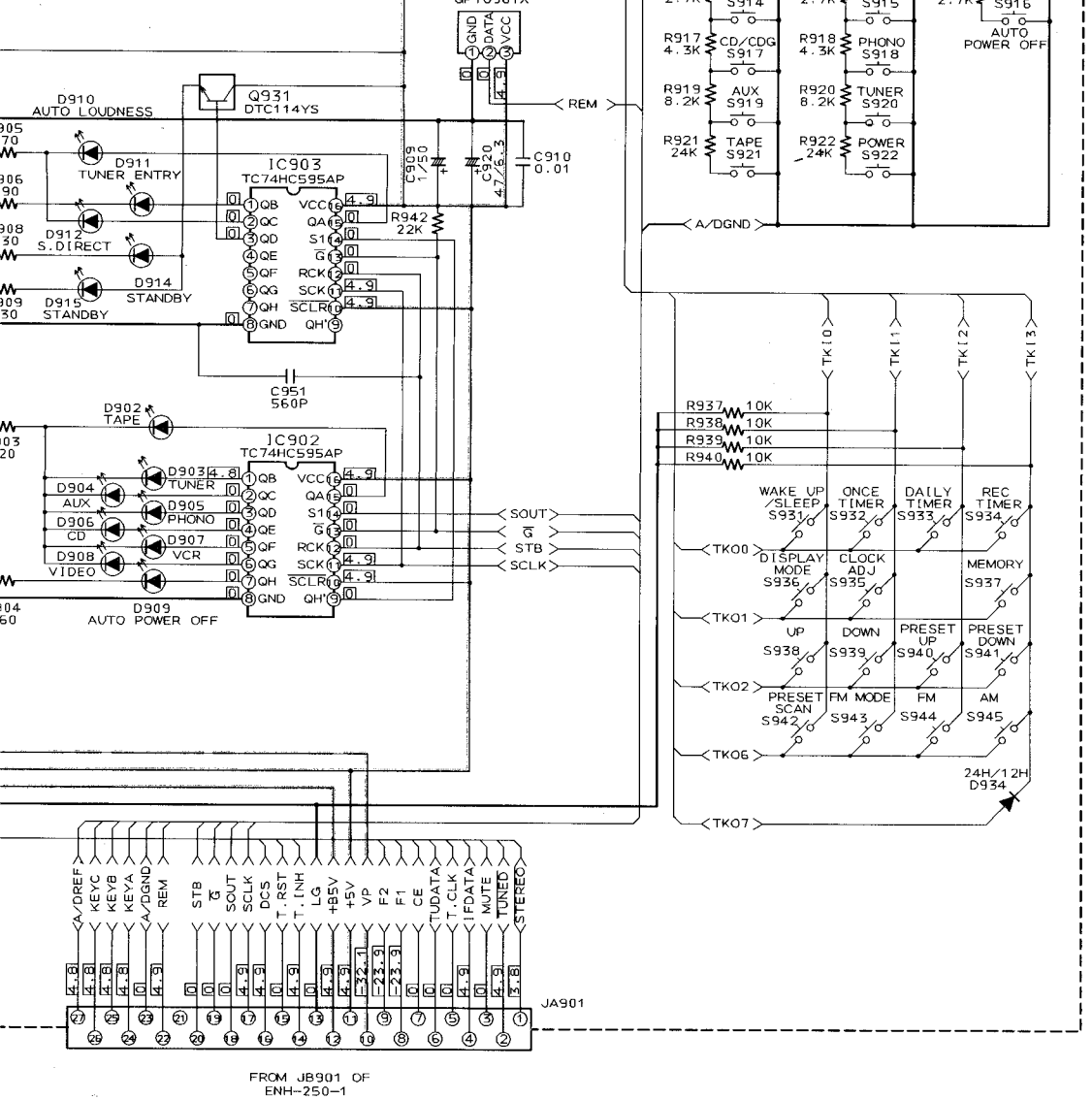



BC101
+5V
R-RST
D-ST
A.GND
R-CK
RDATA
C959
4.7/50
C965
1.5
D911 : SLR-342MC
D902~910,
D912, 914, 915 : SLR-342VC
OTHER DIODE : 1SS119-02
IC904
GP1U901X
GND
DATA
VCC
REM
Q931
DTC114YS
D910
AUTO LOUDNESS
D911
TUNER ENTRY
D912
S.DIRECT
D914
STANDBY
D915
STANDBY
R905
470
R906
390
R908
330
R909
330
IC903
TC74HC595AP
QB
QC
QD
QE
QF
QG
QH
GND
VCC
QA
SI
RCK
SCK
SCLR
C909
1/50
C920
47/6.3
C910
0.01
R942
22K
A/DREF
A/DGND
KEYA
KEYB
KEYC
R911
R912
R913
AUTO LOUDNESS S911
SOURCE DIRECT S912
TUNER ENTRY S913
R914
2.7K
VIDEO S914
R915
2.7K
VCR S915
R916
2.7K
S916
AUTO POWER OFF
R917
4.3K
CD/CDG S917
R918
4.3K
PHONO S918
R919
8.2K
AUX S919
R920
8.2K
TUNER S920
R921
24K
TAPE S921
R922
24K
POWER S922

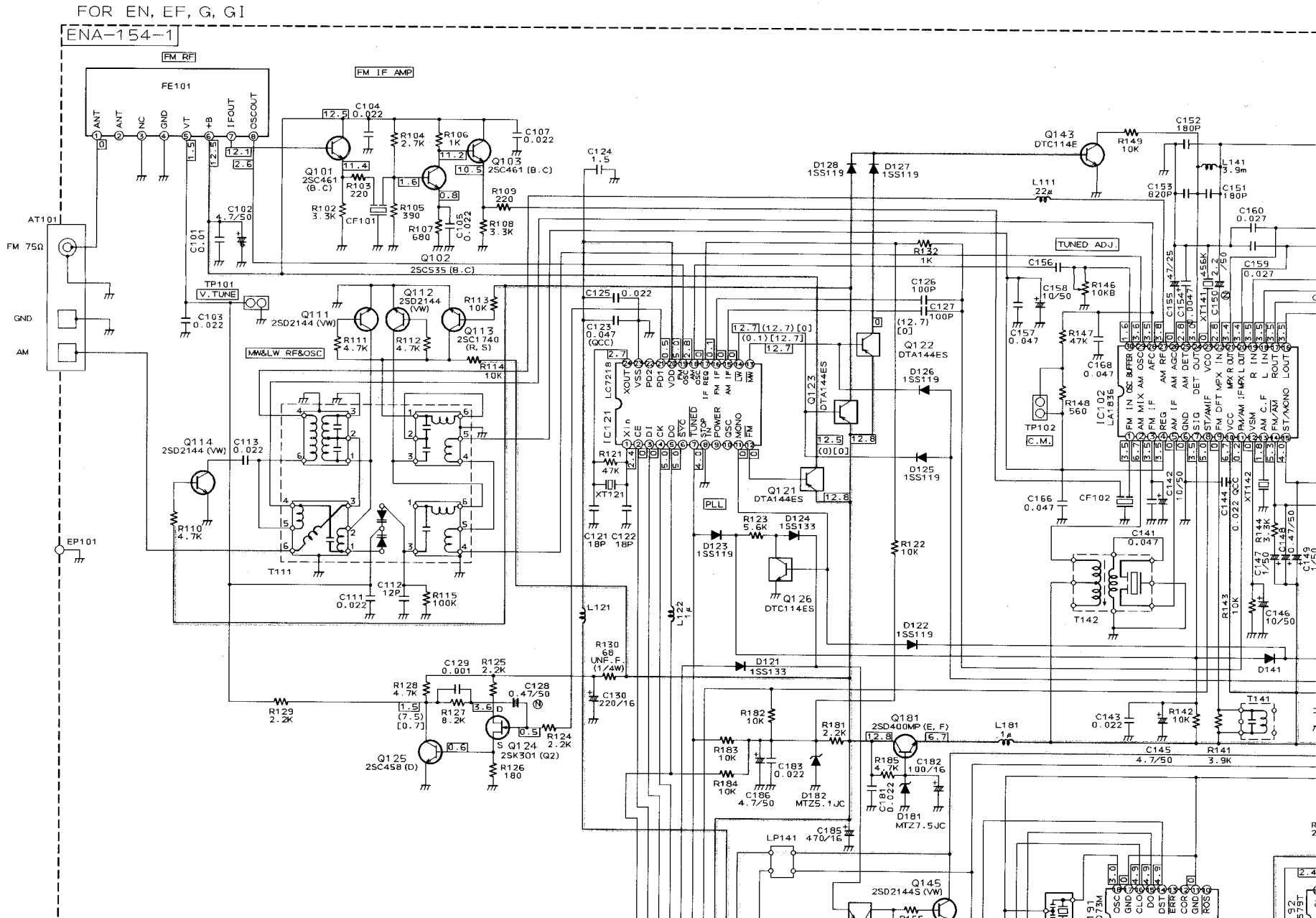

ENB-193-5
V1 V2 MONITOR OUT
H H IN1 CD-G
L H
H L IN3 VTR
L L IN4 VD
IC600
LA7952
IC601
LA7952
IN1 IN2 IN3 IN4
V1
V2
GND
VCC
6dB
JA600
J600
J601
MONITOR OUT
VIDEO
VCR PLAY
VCR REC
R609
75
C604
1000/6.3
R608
47K
R604
75
C602
47/10
R605
220
R607
220
R606
75
C603
47/10
R610
47K
R611
75
C605
1000/6.3
R615
470K
R616
470K
C607
0.01
R613
470K
R612
10
UNF.C (1/4W)
C606
470/16

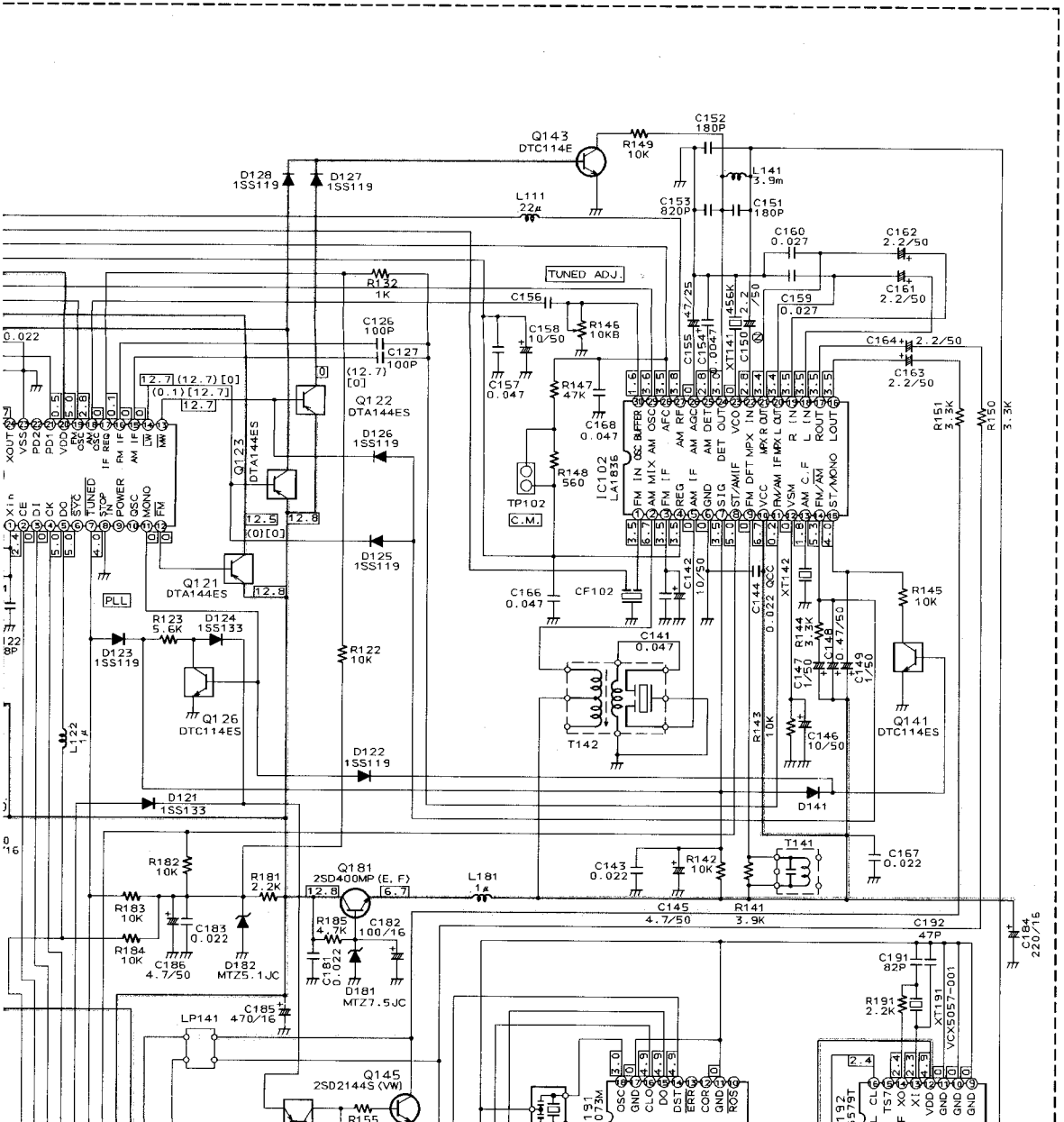

IC901
MN172412JYL
TC901
ENZ1003-015T
XT901
6M
C905
1.0
C904
33P
C908
22/50
C911
0.01
D946
D947
TEST
DATA OUT
(TUNER
DATA)
DATA IN
CLK
CE
IFDATA
T.CLK
D910
AUTO LOUDNESS
D911
TUNER ENTRY
D912
S.DIRECT
D914
STANDBY
D915
STANDBY
Q931
DTC114YS
IC903
TC74HC595AP
IC902
TC74HC595AP
D902
TAPE
D903
TUNER
D904
AUX
D905
PHONO
D906
CD
D907
VCR
D908
VIDEO
D909
AUTO POWER OFF
C951
560P
C909
1/50
C920
47/6.3
C910
0.01
R942
22K
C970
0.001
R932
22K
Q932
DTC114YS
T.RST
REM
SOUT
STB
SCLK
A/DGND
JA901
FROM JB901 OF
ENH-250-1
ENB-193-1

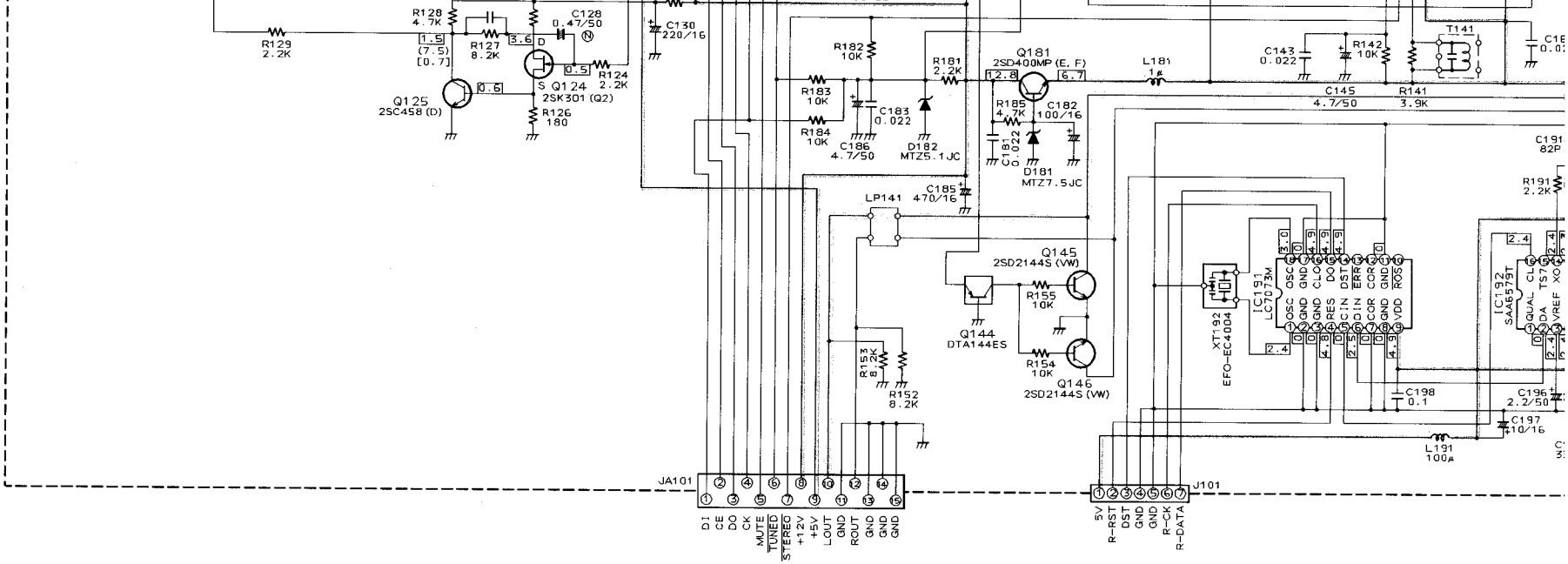
No. 20489)


GND
DATA
VCC
REM
Q931
DTC114YS
D910
AUTO LOUDNESS
D911
TUNER ENTRY
D912
S.DIRECT
D914
STANDBY
D915
STANDBY
IC903
TC74HC595AP
QB
QC
QD
QE
QF
QG
QH
GND
VCC
QA
S1
G
RCK
SCK
SCLR
QH'
C909
1/50
C920
47/6.3
C910
0.01
R942
22K
C951
560P
D902
TAPE
IC902
TC74HC595AP
D903
TUNER
D904
AUX
D905
PHONO
D906
CD
D907
VCR
D908
VIDEO
D909
AUTO POWER OFF
SOUT
STB
SCLK
A/DGND
R913
4.3K
CD/CDG
S914
R914
4.3K
PHONO
S915
R915
2.7K
AUTO
POWER OFF
S916
R917
4.3K
CD/CDG
S917
R918
4.3K
PHONO
S918
R919
8.2K
AUX
S919
R920
8.2K
TUNER
S920
R921
24K
TAPE
S921
R922
24K
POWER
S922
TK10
TK11
TK12
TK13
R937
10K
R938
10K
R939
10K
R940
10K
WAKE UP
/SLEEP
S931
ONCE
TIMER
S932
DAILY
TIMER
S933
REC
TIMER
S934
TK00
DISPLAY
MODE
S936
CLOCK
ADJ
S935
MEMORY
S937
TK01
UP
S938
DOWN
S939
PRESET
UP
S940
PRESET
DOWN
S941
TK02
PRESET
SCAN
S942
FM MODE
S943
FM
S944
AM
S945
TK06
24H/12H
D934
TK07
A/DREF
KEYC
KEYB
KEYA
A/DGND
REM
STB
SOUT
SCLK
DCS
T.RST
T.INH
LG
+B5V
+5V
VP
F2
F1
CE
TUDATA
T.CLK
IFDATA
MUTE
TUNED
STEREO
JA901
FROM JB901 OF
ENH-250-1

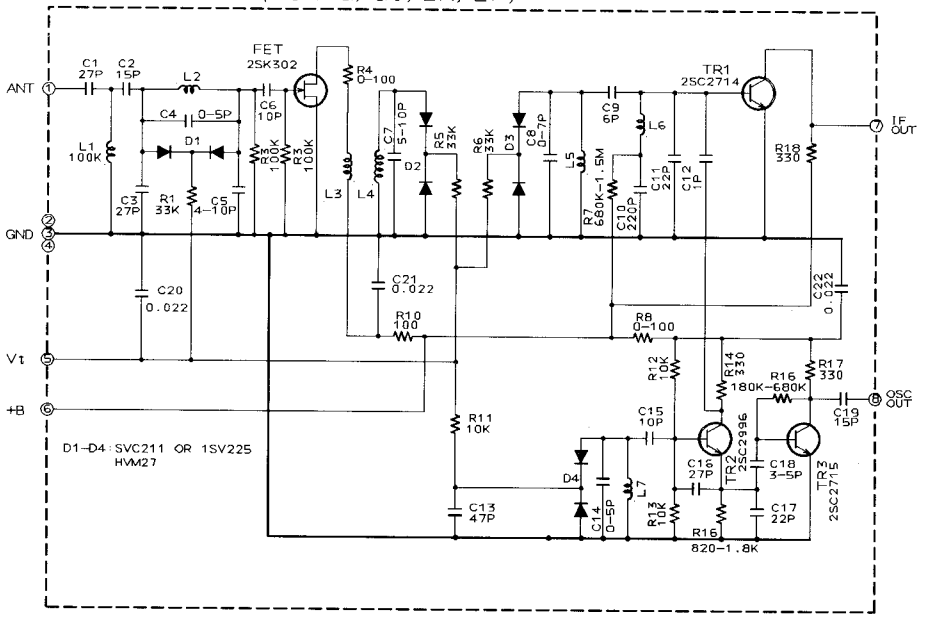
(3) Tuner Section

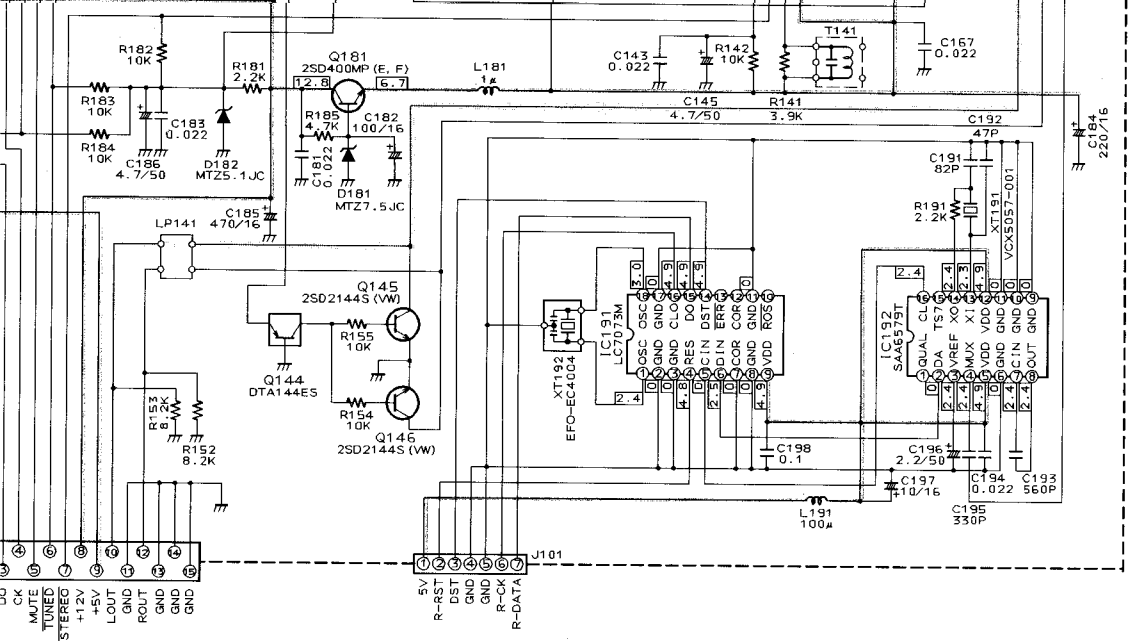



Q143
DTC114E
R149
10K
C152
180P
D128
1SS119
D127
1SS119
L111
22μ
L141
3.9m
C153
820P
C151
180P
C160
0.027
C162
2.2/50
C161
2.2/50
C159
0.027
TUNED ADJ.
R132
1K
C156
C158
10/50
R146
10KB
C126
100P
C127
100P
C157
0.047
R147
47K
C168
0.047
Q122
DTA144ES
Q123
DTA144ES
D126
1SS119
TP102
C.M.
R148
560
IC102
LA1836
C164
2.2/50
C163
2.2/50
R151
3.3K
R150
3.3K
D125
1SS119
Q121
DTA144ES
PLL
C166
0.047
CF102
C142
10/50
C141
0.047
T142
R145
10K
Q141
DTC114ES
R123
5.6K
D124
1SS133
D123
1SS119
R122
10K
Q126
DTC114ES
L122
1μ
D122
1SS119
D121
1SS133
C146
10/50
D141
R182
10K
R181
2.2K
Q181
2SD400MP (E, F)
L181
1μ
C143
0.022
R142
10K
T141
C167
0.022
C145
4.7/50
R141
3.9K
R183
10K
C183
0.022
R184
10K
C186
4.7/50
D182
MTZ5.1JC
R185
4.7K
C182
100/16
C181
0.022
D181
MTZ7.5JC
C185
470/16
C184
220/16
C192
47P
C191
82P
R191
2.2K
XT191
VCX5057-001
LP141
Q145
2SD2144S (VW)
R155
FM AUTO NO SIGNAL
( )MW NO SIGNAL
[ ]LW NO SIGNAL



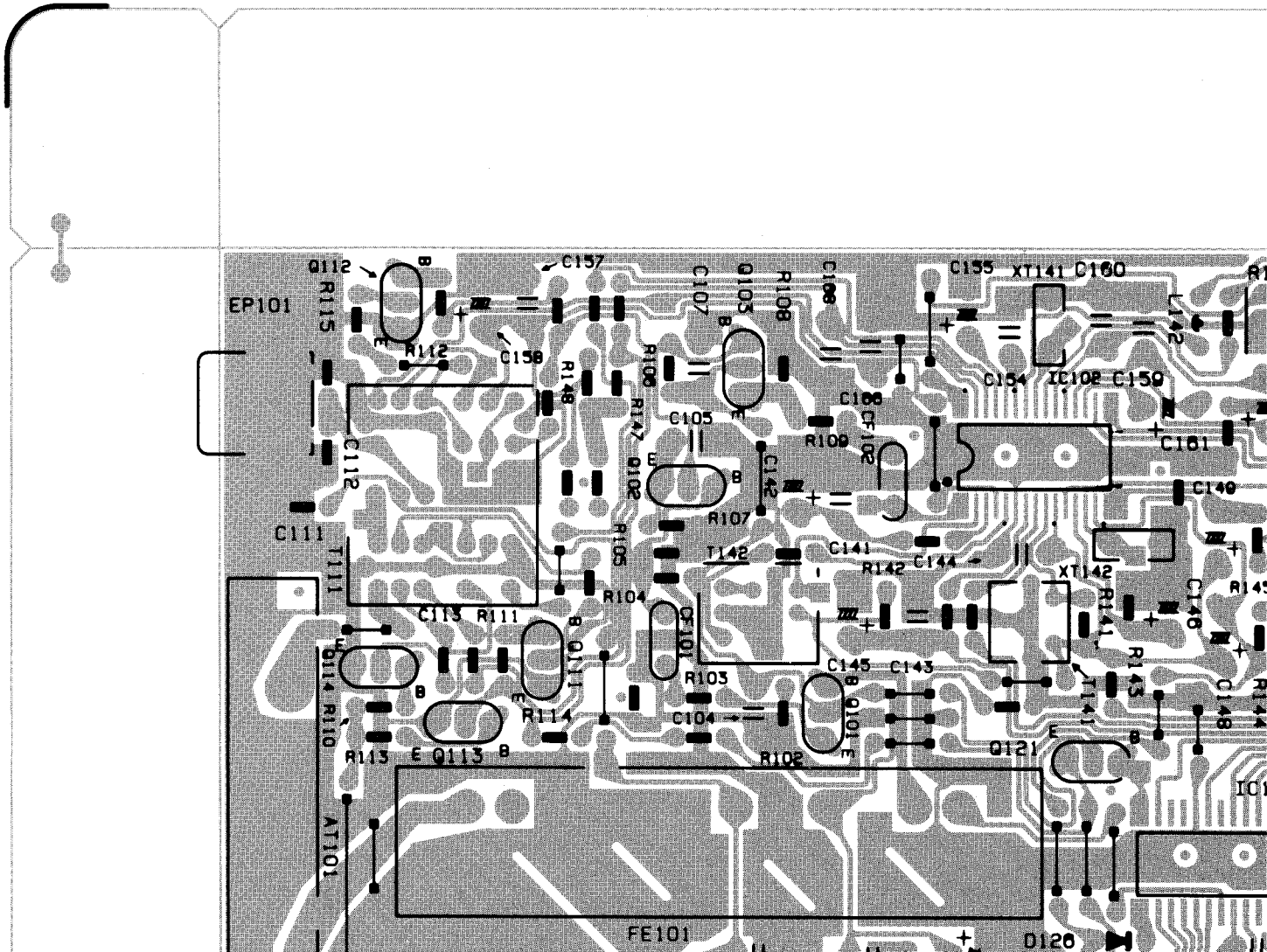
FE101
EAF2203-005 (FOR G, GI, EN, EF)



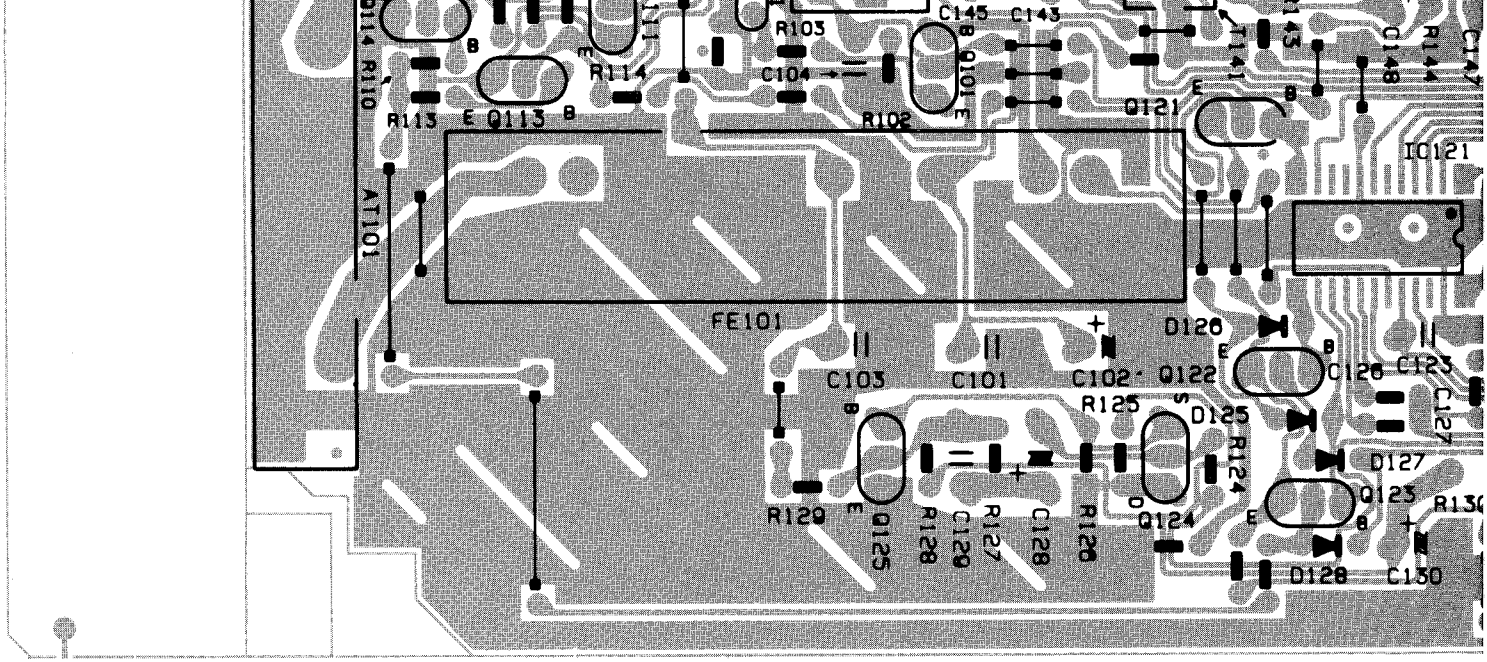

R182 10K
R181 2.2K
Q181 2SD400MP (E, F)
L181 1μ
C143 0.022
R142 10K
T141
C157 0.022
R183 10K
C183 0.022
R185 4.7K
C182 100/16
C145 4.7/50
R141 3.9K
C192 47P
C184 220/16
R184 10K
C186 4.7/50
D182 MTZ5.1JC
C181 0.022
D181 MTZ7.5JC
C191 82P
R191 2.2K
XT191 VCX557-001
C185 470/16
LP141
Q145 2SD2144S (VW)
R155 10K
Q144 DTA144ES
IC191 LC7073M
IC192 SAA6579T
XT192 EFO-EC4004
R153 8.2K
R154 10K
Q146 2SD2144S (VW)
R152 8.2K
C198 0.1
C196 2.2/50
C197 10/16
C194 0.022
C193 560P
C195 330P
L191 100μ
J101
DO
CK
MUTE
TUNED
STEREO
+12V
+5V
LOUT
GND
ROUT
GND
GND
GND
5V
R-RST
DST
GND
GND
R-CK
R-DATA
IF OUT
OSC OUT

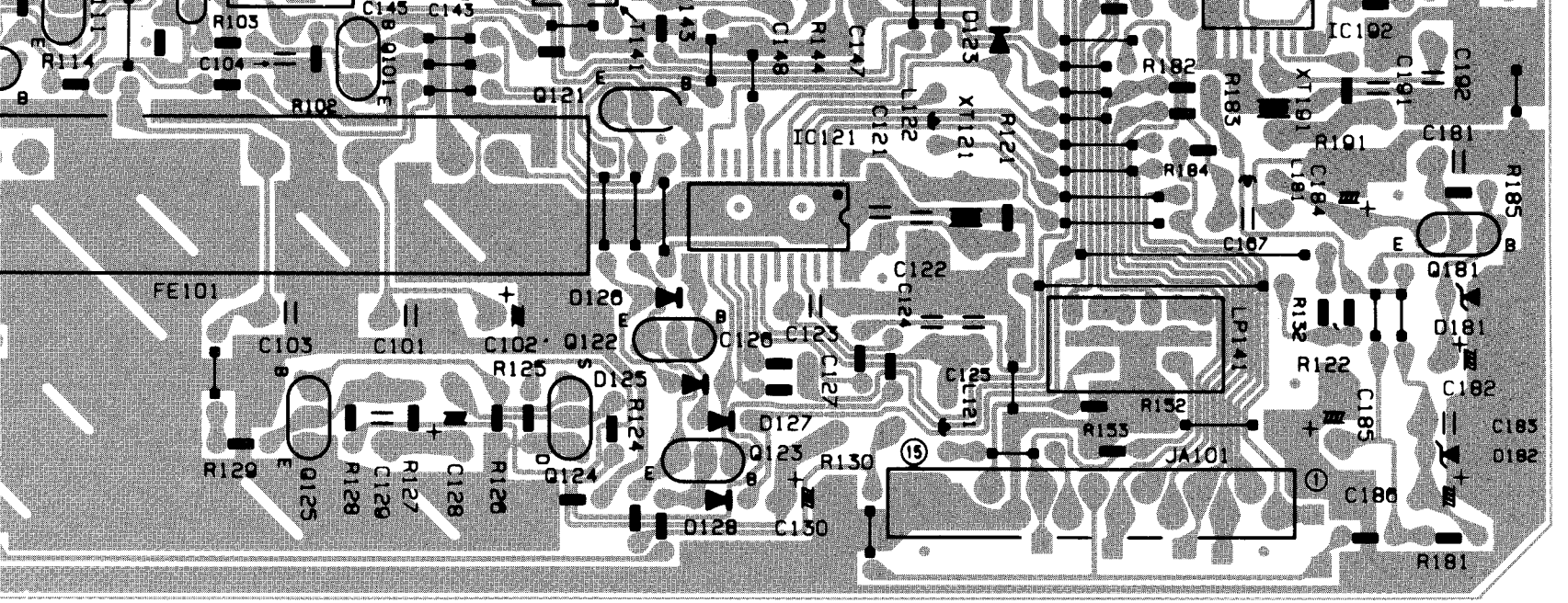
Printed Circuit Boards

(1) Tuner P.C. Board Ass'y

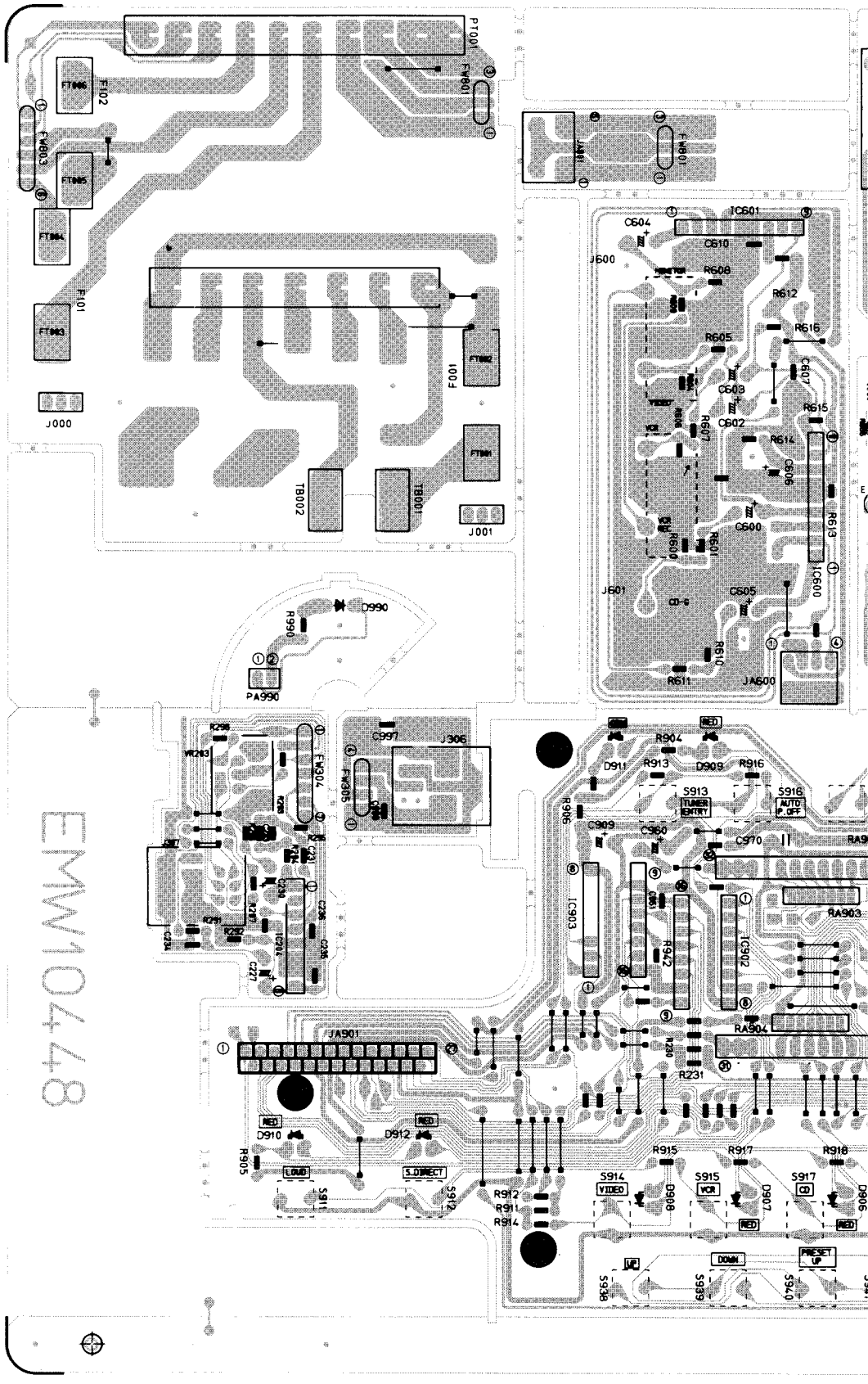


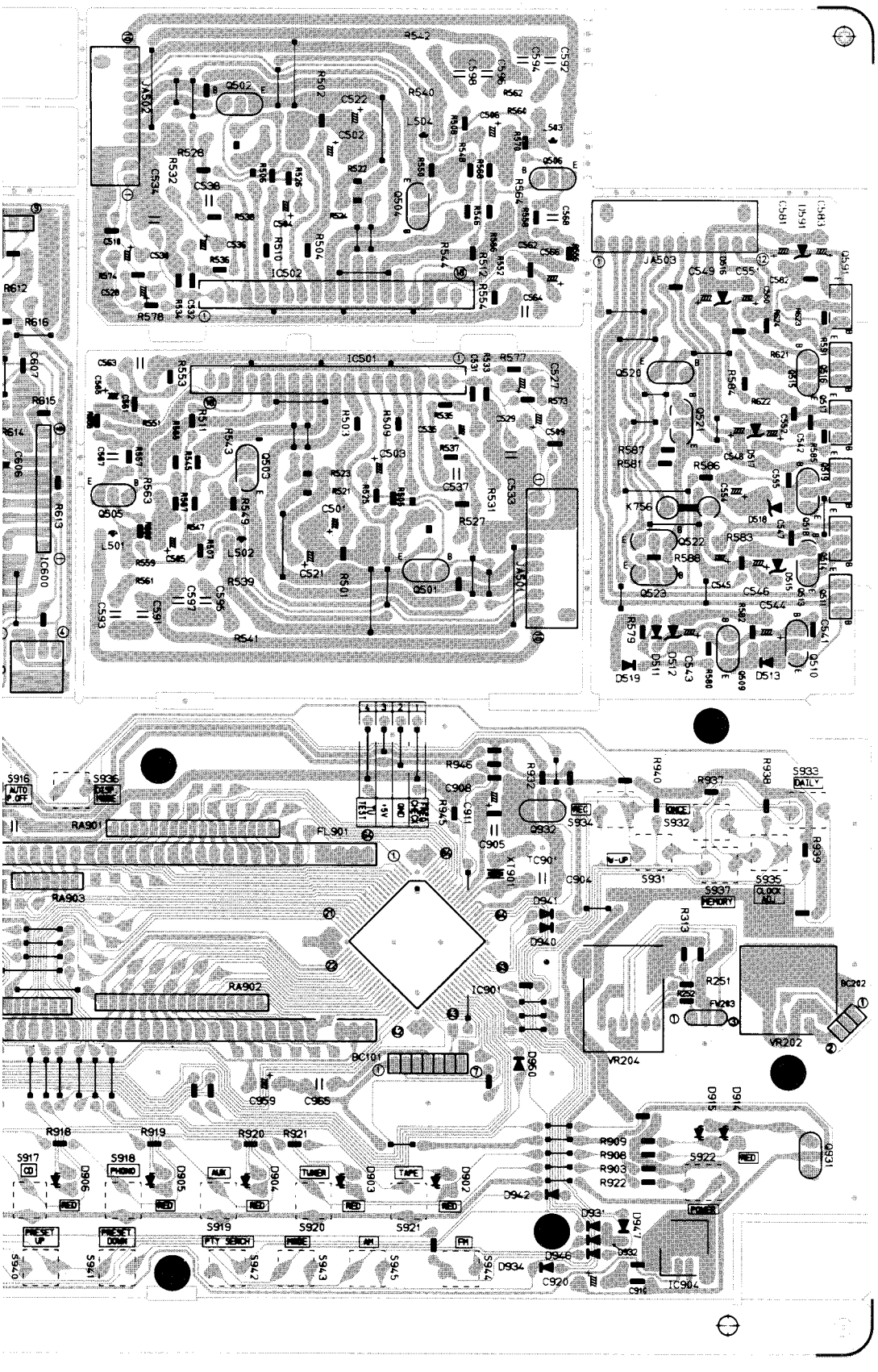
C157
C158
C107
Q103
R108
C108
C155
XT141
C160
R148
C152
L141
C153
R149
L101
C197
C105
R109
CF102
C159
IC102
C154
C156
C161
C102
C164
C163
R150
R151
R155
Q146
Q145
Q143
J101
C104
XT102
IC101
C195
C198
IC192
C196
C199
C192
C191
XT191
L191
C184
R191
C181
R185
Q181
C107
R182
R183
R184
C122
C121
L122
XT121
R121
IC121
Q121
R143
C148
C147
R144
C146
C149
C140
C141
R142
C144
XT142
R141
T141
T142
R145
Q141
D141
D122
D123
D124
D121
R123
D120
FE101
C145
C143
R103
C104
R102
CF101
Q101
Q111
R111
R114
Q113
R107
C142
R105
R104
R106
R147
Q102


R114
R113
Q113
R110
AT101
R103
C104
Q101
C145
C143
R102
Q121
IC121
FE101
C103
C101
C102
R125
Q122
D126
C126
C123
C127
D125
R124
D127
Q123
R130
R129
Q125
R128
C129
R127
C128
R126
Q124
D128
C130

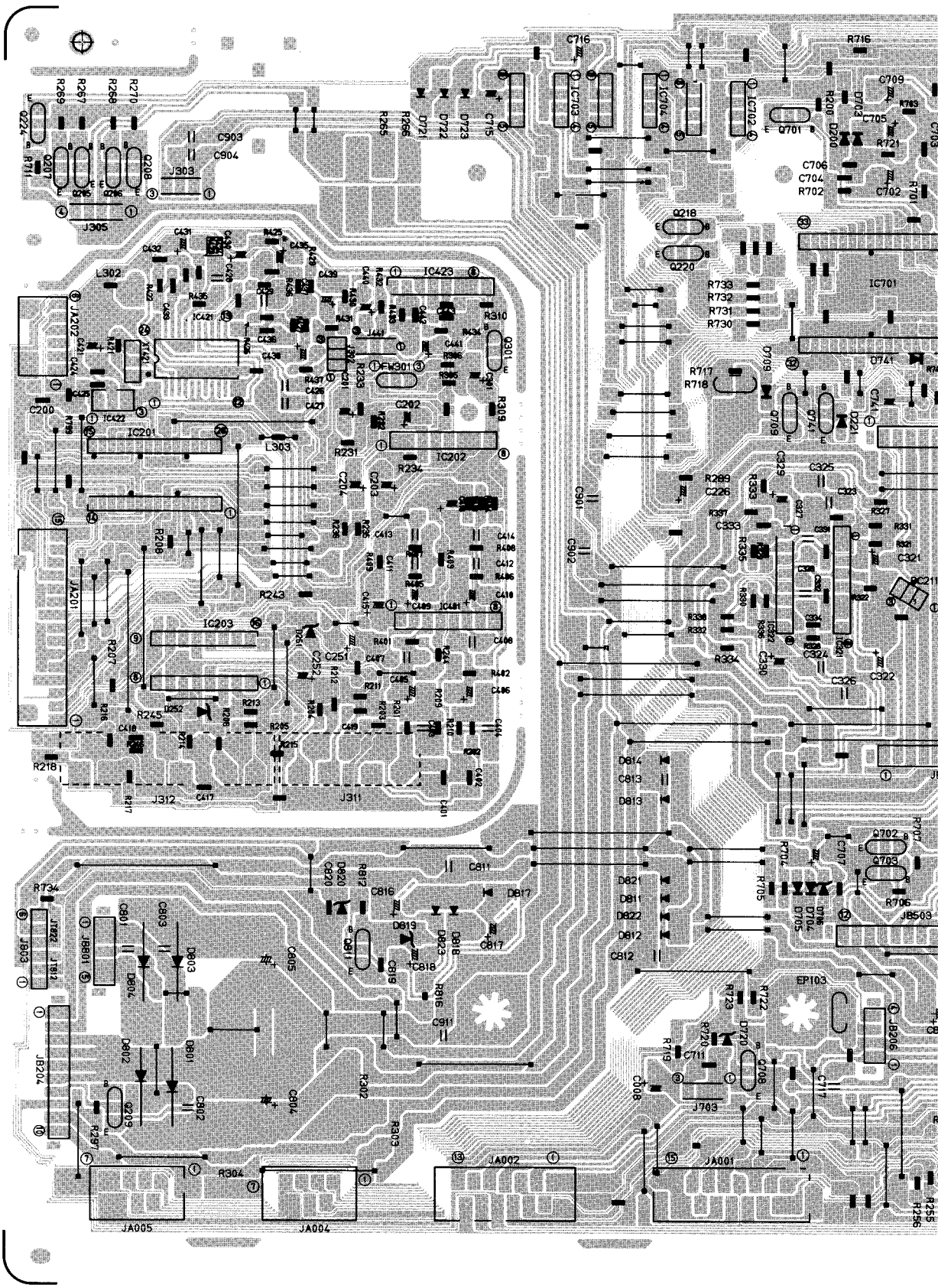

R114
R103
C104
R108
C145
C143
Q101
Q121
R141
R142
C148
R144
C147
Q123
C122
L122
XT121
C121
R121
IC121
R182
R183
R184
IC102
XT101
C191
C102
C181
R191
C184
L181
C187
R185
Q181
D181
C182
C183
D182
C185
C186
R181
R132
R122
LP141
R152
R153
JA101
FE101
C103
C101
C102
Q122
R125
D125
R124
Q124
D126
C126
C123
C127
C125
C121
D127
Q123
R130
D128
C130
R129
Q125
R128
R127
C129
C128
R126

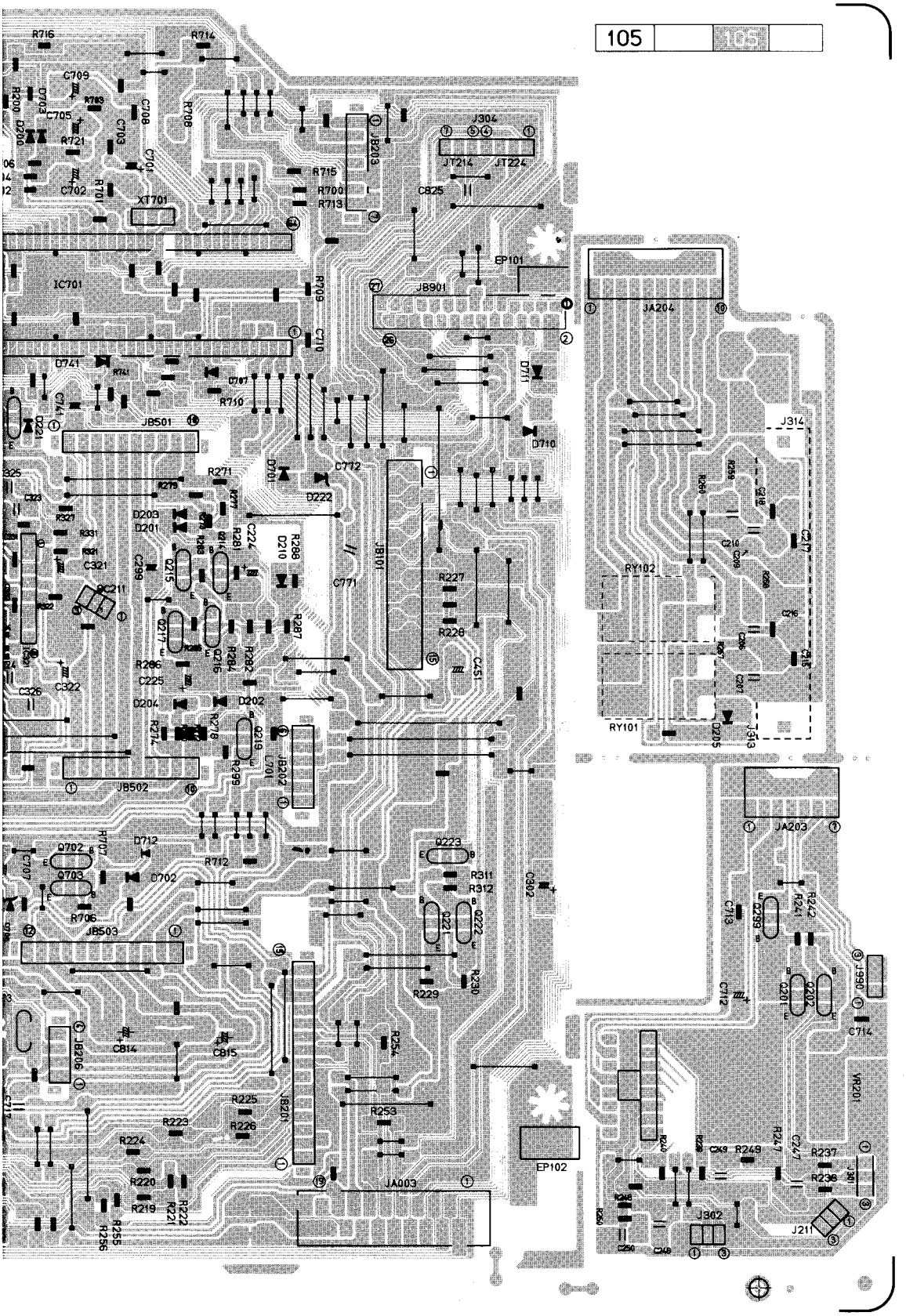
(2) Front, Speaker & Amplifier P.C. Board Ass'y





(3) Main, Input/Output & Power Amplifier P.C. Board Ass'y




105
R716
R714
C709
C705
C708
R706
R721
C703
C701
C702
R701
XT701
R715
R700
R713
C825
J304
JT214
JT224
JB203
EP101
IC701
JB901
JA204
R709
C710
D741
R741
C741
C707
R710
D711
D710
JB501
J314
C772
D701
D222
R271
C223
R327
R331
C321
C299
C211
D203
D201
R281
C224
R288
D210
C771
JB101
R227
R228
C451
C322
C326
R286
C225
D204
D202
R278
R279
R287
R282
C216
R284
Q215
Q217
R299
JB502
JB202
C701
RY102
RY101
D205
J319
JA203
R707
Q702
Q703
D712
D702
R712
R706
JB503
Q223
R311
R312
C302
Q221
Q222
R230
R229
R242
R241
C713
Q239
Q201
Q202
J390
C714
C712
VR201
JB206
C814
C815
R254
R225
R226
R253
JB201
R223
R224
R220
R219
R222
R221
R255
R256
JA003
EP102
C249
R247
C247
R237
R236
J391
J392
J211

RX-G70RBK

< PARTS LIST >

Note : All printed circuit boards and its assemblies are not available as service parts.

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■ ENA-154 [I] Tuner PC Board Ass'y 3-7
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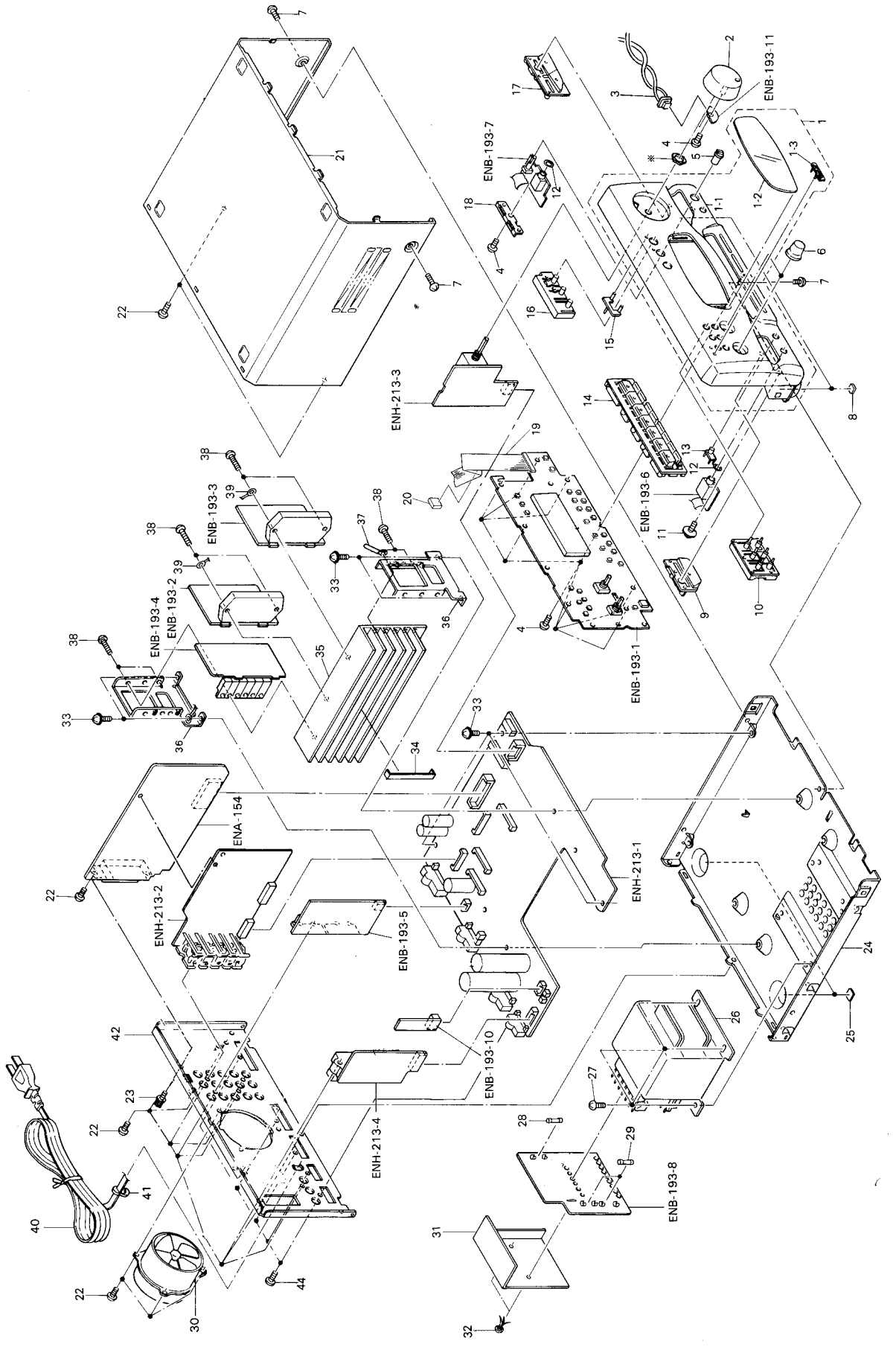
Packing Materials and Part Numbers 3-14

(No. 20489)

General Exploded View and Parts List

Symbol No. M 1 M M



■ Parts List

Symbol No. M 1 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	EFP-RXG70RBKE(S	FRONT PANEL ASSY	1		
	1-1	E102622-012	FRONT PANEL	1		
	1-2	E308184-002	WINDOW SCREEN	1		
	1-3	E406971-221	JVC MARK	1		
	2	E308187-004	MAIN VOLUME KNOB	1		
	3	EWS142-033	CONNECTOR WIRE ASSY	1	AW990	
	4	SDSF2608Z	SCREW	10		
	5	E407233-001	MIXING VOLUME KNOB	1		
	6	E308189-005	BALANCE KNOB	2		
	7	SDSG3006M	SCREW	3		
	8	E406855-008	SPACER	2		
	9	E207583-001	PUSH BUTTON ASSY	1		
	10	E207579-001	PUSH BUTTON	1		
	11	E407098-001	SPECIAL SCREW	1		
	12	E407770-001	HEAD PHONE SPACER	2		
	13	E407232-001	REMOCON PLATE	1		
	14	E207580-006	PUSH BUTTON ASSY	1		
	15	E407228-001	INDICATOR LENS	1		
	16	E207578-001	PUSH BUTTON	1		
	17	E207586-002	PUSH BUTTON ASSY	1		
	18	E407234-001	MIC BRACKET	1		
	19	VWF1227-15TTB	FFC CABLE	1	FC901	
	20	E3400-431	FELT SPACER	1		
	21	E207591-001	METAL COVER	1		
	22	E73273-003	SPECIAL SCREW	21		
	23	E408091-001	EARTH PLUG	1		
	24	E102624-001	CHASSIS BASE	1		
	25	E406855-005	SPACER	2		
⚠	26	ETP1100-45EA	POWER TRANSFORMER	1	PT001	
	27	E65389-004	SPECIAL SCREW	4		
⚠	28	QMF51A2-1R25	FUSE	1	F001	
⚠	29	QMF51A2-1R6S	FUSE	2	F101	
	30	E206880-003	FAN ASSY	1		
	31	E308520-003	PROTECTOR COVER	1		
	32	E48729-008	PLASTIC RIVET	2		
	33	GBSG3008CC	TAPPING SCREW	7		
	34	EXO090008H05S	SPACER	1		
	35	E308190-002	HEAT SINK	1		
	36	E308191-002	HEAT SINK BRACKET	2		
	37	E72018-001	WIRE CLAMP	1		
	38	SBSG3014CC	SCREW	8		
	39	EWT051-006K	TERMINAL WIRE ASSY	1		
⚠	40	QMP3900-200	POWER CORD	1		
⚠	41	QHS3876-162	CORD STOPPER	1		
	42	E207674-009	REAR PANEL	1		
	—	E61029-005	NUMBER LABEL	1		
	—	QZL1031-101	LABEL	1		EF
	—	E70027-001	LABEL	1		EN
	—	E75040-047	GI LABEL	1		GI

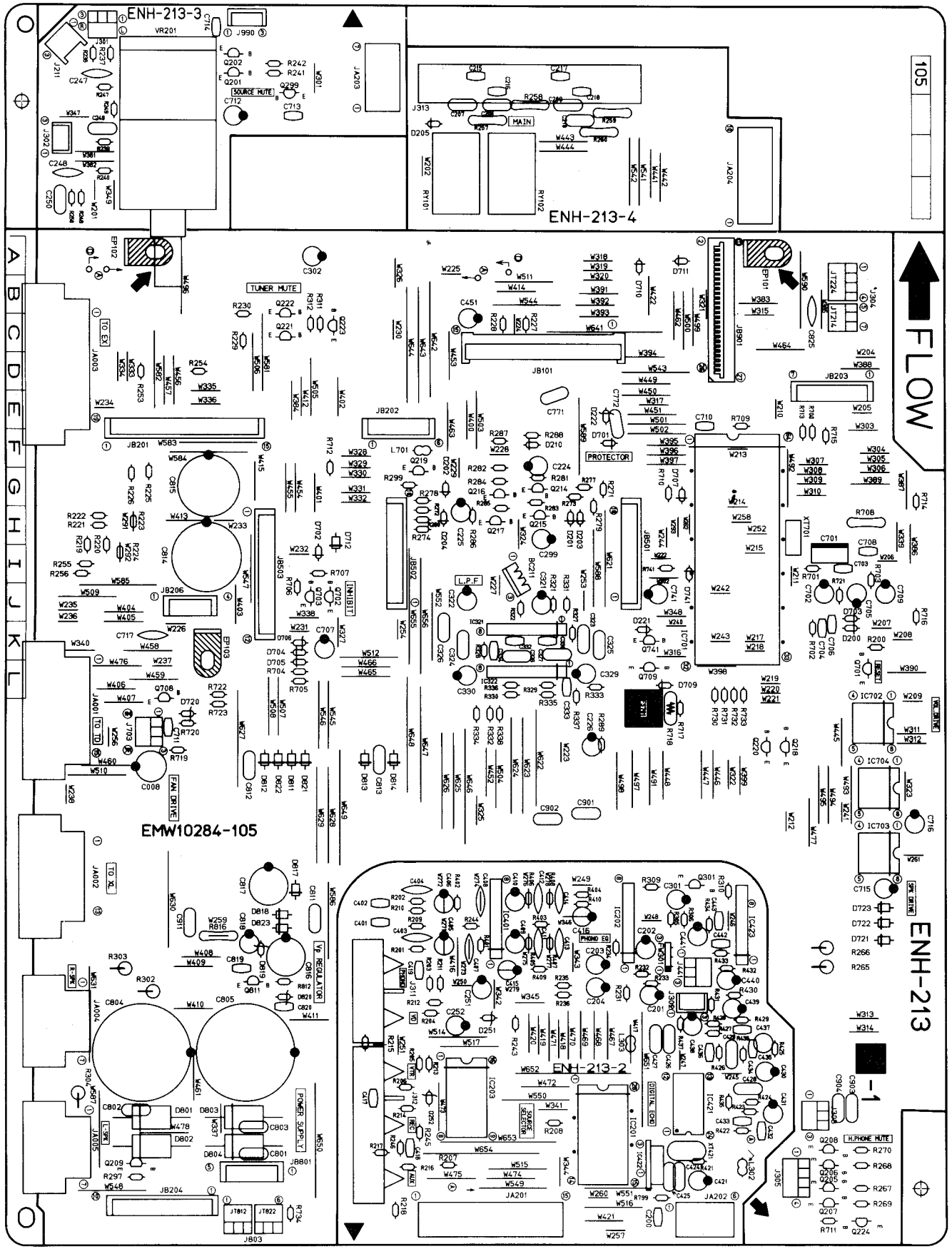
The Marks for Designated Areas

EF .. Continental Europe EN ..... Scandinavia G ... Germany GI .... Itary

No mark indicates all area.

Printed Circuit Board Ass'y and Parts List

■ENH-213 [J] Main & Volume PC Board Ass'y



TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q201	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q202	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q205	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q206	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q207	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q208	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q209	2SC1740S(R/S)	SI.TRANSIST ROHM	
	Q214	2SC1740S(R/S)	SI.TRANSIST ROHM	
	Q215	2SC1740S(R/S)	SI.TRANSIST ROHM	
	Q216	2SC1740S(R/S)	SI.TRANSIST ROHM	
	Q217	2SA933S(RS)	SI.TRANSIST	
	Q218	DTA114ES	DIGITAL TRA ROHM	
	Q219	DTA114ES	DIGITAL TRA ROHM	
	Q220	DTC144ES	DIGITAL TRA ROHM	
	Q224	DTA114TS	DIGITAL TRA ROHM	
	Q299	DTA114TS	DIGITAL TRA ROHM	
	Q300	2SC1740S(R/S)	SI.TRANSIST ROHM	
	Q701	DTC114WS	DIGITAL TRA S001	
	Q702	DTC114YS	DIGITAL TRA ROHM	
	Q703	DTC124ES	DIGITAL TRA 0021	
	Q708	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q709	DTA123ES	DIODE ROHM	*
	Q741	DTC144ES	DIGITAL TRA ROHM	
	Q811	2SA934(Q/R)	SI.TRANSIST ROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	TC9164N	I.C(DIGI-MO TOSHIBA	
	IC202	VC4580L	I.C(MONO-AN DAINICHI	
	IC203	TC4052BP	I.C(DIGI-MO TOSHIBA	
	IC321	VC4580L	I.C(MONO-AN DAINICHI	
	IC322	VC4580L	I.C(MONO-AN DAINICHI	
	IC401	VC4580LD	I.C(MONO-AN DAINICHI	
	IC701	UPD78011BCW-120	I.C.	
	IC702	LB1639-CV	I.C(DIGI-OT SANYO	
	IC703	LB1639-CV	I.C(DIGI-OT SANYO	
	IC704	LB1639-CV	I.C(DIGI-OT SANYO	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D200	1SS119	SI.DIODE	
	D201	1SS119	SI.DIODE	
	D202	1SS119	SI.DIODE	
	D203	1SS119	SI.DIODE	
	D204	1SS119	SI.DIODE	
	D205	1SS119	SI.DIODE	
	D210	1SS119	SI.DIODE	
	D221	1SS119	SI.DIODE	
	D222	MTZ2.0JB	ZENER DIODE ROHM	
	D251	MTZ5.6JC	ZENER DIODE ROHM	
	D252	MTZ5.6JC	ZENER DIODE ROHM	
	D701	1SS119	SI.DIODE	
	D702	1SS119	SI.DIODE	
	D703	1SS119	SI.DIODE	
	D704	1SS119	SI.DIODE	
	D705	1SS119	SI.DIODE	
	D706	MTZ5.1JB	ZENER DIODE ROHM	
	D707	1SS119	SI.DIODE	
	D709	MA700	SI.DIODE MATSUSHITA	
	D710	1SS119	SI.DIODE	
	D711	1SS119	SI.DIODE	
	D712	1SR139-200	SI.DIODE ROHM	
	D720	MTZ2.0JB	ZENER DIODE ROHM	
	D721	1SR139-200	SI.DIODE ROHM	
	D722	1SR139-200	SI.DIODE ROHM	
	D723	1SR139-200	SI.DIODE ROHM	
	D741	1SS119	SI.DIODE	
	D801	30DL2FC	SI.DIODE NIHONINTER	
	D802	30DL2FC	SI.DIODE NIHONINTER	
	D803	30DL2FC	SI.DIODE NIHONINTER	
	D804	30DL2FC	SI.DIODE NIHONINTER	
	D811	1SR139-200	SI.DIODE ROHM	
	D812	1SR139-200	SI.DIODE ROHM	
	D813	1SR139-200	SI.DIODE ROHM	
	D814	1SR139-200	SI.DIODE ROHM	
	D817	1SR139-200	SI.DIODE ROHM	
	D818	1SR139-200	SI.DIODE ROHM	
	D819	MTZ33JC	ZENER DIODE ROHM	
	D820	MTZ8.2JC	ZENER DIODE ROHM	
	D821	1SR139-200	SI.DIODE ROHM	
	D822	1SR139-200	SI.DIODE ROHM	
	D823	1SR139-200	SI.DIODE ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C008	QETBOJM-477	470MF 6.3V AL E.CAPAC	
	C200	QCBB1HK-561Y	560PF 50V CERAMIC	
	C201	EEZ5009-106	10MF AL E.CAPAC	
	C202	EEZ5009-106	10MF AL E.CAPAC	
	C203	EEZ5009-106	10MF AL E.CAPAC	
	C204	EEZ5009-106	10MF AL E.CAPAC	
	C207	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C208	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C209	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C210	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C215	QCBB1HK-561Y	560PF 50V CERAMIC	
	C216	QCBB1HK-561Y	560PF 50V CERAMIC	
	C217	QCBB1HK-561Y	560PF 50V CERAMIC	
	C218	QCBB1HK-561Y	560PF 50V CERAMIC	
	C224	QETB1EM-106	10MF 25V AL E.CAPAC	
	C225	QETB1AM-476	47MF 10V E.CAPACITO	
	C226	QEK51HM-474G	0.47MF 50V AL E.CAPAC	
	C247	QCS31HJ-820Z	82PF 50V CERAMIC	
	C248	QCS31HJ-820Z	82PF 50V CERAMIC	
	C249	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C250	QFN81HJ-103	0.01MF 50V METAL.MYLA	
	C251	QETB1AM-476	47MF 10V E.CAPACITO	
	C252	QETB1AM-476	47MF 10V E.CAPACITO	
	C299	QETB1HM-106	10MF 50V E.CAPACITO	
	C301	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C302	QETB1CM-226	22MF 16V E.CAPACITO	
	C321	EEZ5009-106	10MF AL E.CAPAC	
	C322	EEZ5009-106	10MF AL E.CAPAC	
	C323	QFVB1HJ-184N	0.18MF 50V T.FILM	
	C324	QFVB1HJ-184N	0.18MF 50V T.FILM	
	C325	QFVB1HJ-184N	0.18MF 50V T.FILM	
	C326	QFVB1HJ-184N	0.18MF 50V T.FILM	
	C327	QFVB1HJ-564N	0.56MF 50V T.FILM	
	C328	QFVB1HJ-564N	0.56MF 50V T.FILM	
	C329	EEZ5009-106	10MF AL E.CAPAC	
	C330	EEZ5009-106	10MF AL E.CAPAC	
	C331	QCBB1HK-101Y	100PF 50V CERAMIC	
	C332	QCBB1HK-101Y	100PF 50V CERAMIC	
	C333	QCSB1HJ-470Y	47PF 50V CERAMIC	
	C334	QCSB1HJ-470Y	47PF 50V CERAMIC	
	C401	QCBB1HK-331Y	330PF 50V CERAMIC	
	C402	QCBB1HK-331Y	330PF 50V CERAMIC	
	C403	QCS31HJ-221Z	220PF 50V CERAMIC	
	C404	QCS31HJ-221Z	220PF 50V CERAMIC	
	C405	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C406	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C407	QCS31HJ-101ZA	100PF 50V CERAMIC	
	C408	QCS31HJ-101ZA	100PF 50V CERAMIC	
	C409	QETB1EM-106	10MF 25V AL E.CAPAC	
	C410	QETB1EM-106	10MF 25V AL E.CAPAC	
	C411	QCY31HK-682ZA	6800PF 50V CERAMIC	
	C412	QCY31HK-682ZA	6800PF 50V CERAMIC	
	C413	QCY31HK-182ZA	1800PF 50V CERAMIC	
	C414	QCY31HK-182ZA	1800PF 50V CERAMIC	
	C415	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C416	QETB1HM-225	2.2MF 50V E.CAPACITO	
	C417	QCBB1HK-221Y	220PF 50V CERAMIC	
	C418	QCBB1HK-221Y	220PF 50V CERAMIC	
	C419	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C701	QEADOHZ-10AZM	AL E.CAPAC	
	C702	QCZ0205-155	1.5MF 25V C.CAPACITO	
	C703	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C704	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C705	QETB1HM-106	10MF 50V E.CAPACITO	
	C706	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C707	QETB1HM-105	1MF 50V AL E.CAPAC	
	C708	QCHB1EZ-223	0.022MF 25V CER.CAPACI	
	C709	QETB1EM-106	10MF 25V AL E.CAPAC	
	C710	QCBB1HK-471Y	470PF 50V CERAMIC	
	C711	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C712	QETB1CM-226	22MF 16V E.CAPACITO	
	C713	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C714	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C715	QETB1AM-476	47MF 10V E.CAPACITO	
	C716	QETB1AM-476	47MF 10V E.CAPACITO	
	C741	QETB1AM-107	100MF 10V AL E.CAPAC	
	C771	QCZ0205-155	1.5MF 25V C. CAPACITO	
	C772	QCZ0205-155	1.5MF 25V C. CAPACITO	
	C801	QFV82AJ-104	0.1MF 100V T.FILM	
	C802	QFV82AJ-104	0.1MF 100V T.FILM	
	C803	QFV82AJ-104	0.1MF 100V T.FILM	
	C804	EEW4209-568E	5600MF E.CAPACITO	
	C805	EEW4209-568E	5600MF E.CAPACITO	
	C811	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C812	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C813	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C814	QETB1EM-338M	3300MF 25V ELECTRO	
	C815	QETB1VM-228N	2200MF 35V E.CAPACITO	
	C816	QETB1HM-227	220MF 50V E.CAPACITO	
	C817	QETB1HM-227	220MF 50V E.CAPACITO	
	C818	QETB1HM-226E	22MF 50V E.CAPACITO	
	C819	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C820	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C901	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C902	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C903	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C904	QFVC1HJ-104ZN	0.1MF 50V METAL.MYLA	
	C911	QCS31HJ-121Z	120PF 50V CERAMIC	

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R200	QRD161J-103	10K 1/6W CARBON RES	
	R201	QRD167J-272	2.7K 1/6W CARBON RES	
	R202	QRD167J-272	2.7K 1/6W CARBON RES	
	R203	QRD167J-153	15K 1/6W CARBON RES	
	R204	QRD167J-153	15K 1/6W CARBON RES	
	R205	QRD167J-153	15K 1/6W CARBON RES	
	R206	QRD167J-153	15K 1/6W CARBON RES	
	R207	QRD161J-472	4.7K 1/6W CARBON RES	
	R208	QRD161J-472	4.7K 1/6W CARBON RES	
	R209	QRD161J-104	100K 1/6W CARBON RES	
	R210	QRD161J-104	100K 1/6W CARBON RES	
	R211	QRD161J-104	100K 1/6W CARBON RES	
	R212	QRD161J-104	100K 1/6W CARBON RES	
	R213	QRD161J-104	100K 1/6W CARBON RES	
	R214	QRD161J-104	100K 1/6W CARBON RES	
	R215	QRD161J-104	100K 1/6W CARBON RES	
	R216	QRD161J-104	100K 1/6W CARBON RES	
	R217	QRD167J-153	15K 1/6W CARBON RES	
	R218	QRD167J-153	15K 1/6W CARBON RES	
	R219	QRD161J-242	2.4K 1/6W CARBON RES	
	R220	QRD161J-242	2.4K 1/6W CARBON RES	
	R221	QRD167J-822	8.2K 1/6W CARBON RES	
	R222	QRD167J-822	8.2K 1/6W CARBON RES	
	R227	QRD167J-152	1.5K 1/6W CARBON RES	
	R228	QRD167J-152	1.5K 1/6W CARBON RES	
	R229	QRD161J-103	10K 1/6W CARBON RES	
	R230	QRD161J-103	10K 1/6W CARBON RES	
	R231	QRD161J-104	100K 1/6W CARBON RES	
	R232	QRD161J-104	100K 1/6W CARBON RES	
	R233	QRD161J-104	100K 1/6W CARBON RES	
	R234	QRD161J-104	100K 1/6W CARBON RES	
	R235	QRD161J-104	100K 1/6W CARBON RES	
	R236	QRD161J-104	100K 1/6W CARBON RES	
	R237	QRV144F-3901	3.9K 1/4W CONST.META	
	R238	QRV144F-3901	3.9K 1/4W CONST.META	
	R239	QRD161J-104	100K 1/6W CARBON RES	
	R240	QRD161J-104	100K 1/6W CARBON RES	
	R241	QRD161J-103	10K 1/6W CARBON RES	
	R242	QRD161J-103	10K 1/6W CARBON RES	
	R243	QRD167J-471	470 1/6W CARBON RES	
	R244	QRD167J-471	470 1/6W CARBON RES	
	R245	QRD161J-513	51K 1/6W CARBON RES	
	R246	QRD161J-513	51K 1/6W CARBON RES	
	R247	QRD161J-184	180K 1/6W CARBON RES	
	R248	QRD161J-184	180K 1/6W CARBON RES	
	R249	QRD161J-123	12K 1/6W CARBON RES	
	R250	QRD161J-123	12K 1/6W CARBON RES	
	R253	QRD167J-471	470 1/6W CARBON RES	
	R254	QRD167J-471	470 1/6W CARBON RES	
	R255	QRD161J-681	680 1/6W CARBON RES	
	R256	QRD161J-681	680 1/6W CARBON RES	
	R257	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R258	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R259	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R260	QRD14CJ-100SX	10 1/4W UNF.CARBON	
	R265	QRG01DJ-331	330 1W OXIDE META	
	R266	QRG01DJ-331	330 1W OXIDE META	
	R267	QRD161J-473	47K 1/6W CARBON RES	
	R268	QRD161J-473	47K 1/6W CARBON RES	
	R269	QRD161J-473	47K 1/6W CARBON RES	
	R270	QRD161J-473	47K 1/6W CARBON RES	
	R271	QRD161J-104	100K 1/6W CARBON RES	
	R272	QRD161J-104	100K 1/6W CARBON RES	
	R273	QRD161J-104	100K 1/6W CARBON RES	
	R274	QRD161J-104	100K 1/6W CARBON RES	
	R277	QRD161J-393	39K 1/6W CARBON RES	
	R278	QRD161J-393	39K 1/6W CARBON RES	
	R279	QRD161J-393	39K 1/6W CARBON RES	
	R280	QRD161J-393	39K 1/6W CARBON RES	
	R281	QRD161J-103	10K 1/6W CARBON RES	
	R282	QRD161J-103	10K 1/6W CARBON RES	
	R283	QRD161J-103	10K 1/6W CARBON RES	
	R284	QRD161J-103	10K 1/6W CARBON RES	
	R285	QRD161J-104	100K 1/6W CARBON RES	
	R286	QRD161J-104	100K 1/6W CARBON RES	
	R287	QRD161J-103	10K 1/6W CARBON RES	
	R288	QRD161J-222	2.2K 1/6W CARBON RES	
	R289	QRD167J-682	6.8K 1/6W CARBON RES	
	R297	QRD167J-152	1.5K 1/6W CARBON RES	
	R299	QRD161J-333	33K 1/6W CARBON RES	
	R302	QRG01DJ-680	68 1W OXIDE META	
	R303	QRG01DJ-680	68 1W OXIDE META	
	R304	QRG01DJ-680	68 1W OXIDE META	
	R305	QRD161J-104	100K 1/6W CARBON RES	
	R306	QRD161J-104	100K 1/6W CARBON RES	
	R309	QRD161J-105	1M 1/6W CARBON RES	
	R310	QRD167J-102	1K 1/6W CARBON RES	
	R321	QRD161J-104	100K 1/6W CARBON RES	
	R322	QRD161J-104	100K 1/6W CARBON RES	
	R327	QRD161J-222	2.2K 1/6W CARBON RES	
	R328	QRD161J-222	2.2K 1/6W CARBON RES	
	R329	QRV144F-2202	22K 1/4W CONST.META	
	R330	QRV144F-2202	22K 1/4W CONST.META	
	R331	QRV144F-3302	33K 1/4W METAL FILM	
	R332	QRV144F-3302	33K 1/4W METAL FILM	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R333	QRD167J-562	5.6K 1/6W CARBON RES	
	R334	QRD167J-562	5.6K 1/6W CARBON RES	
	R335	QRV144F-3302	33K 1/4W METAL FILM	
	R336	QRV144F-3302	33K 1/4W METAL FILM	
	R337	QRV144F-3302	33K 1/4W METAL FILM	
	R338	QRV144F-3302	33K 1/4W METAL FILM	
	R401	QRD161J-104	100K 1/6W CARBON RES	
	R402	QRD161J-104	100K 1/6W CARBON RES	
	R403	QRD167J-751	750 1/6W CARBON RES	
	R404	QRD167J-751	750 1/6W CARBON RES	
	R405	QRD161J-474	470K 1/6W CARBON RES	
	R406	QRD161J-474	470K 1/6W CARBON RES	
	R407	QRD161J-393	39K 1/6W CARBON RES	
	R408	QRD161J-393	39K 1/6W CARBON RES	
	R409	QRD161J-104	100K 1/6W CARBON RES	
	R410	QRD161J-104	100K 1/6W CARBON RES	
	R700	QRD161J-103	10K 1/6W CARBON RES	
	R701	QRD161J-470	47 1/6W CARBON RES	
	R702	QRD167J-223	22K 1/6W CARBON RES	
	R704	QRD161J-103	10K 1/6W CARBON RES	
	R705	QRD161J-103	10K 1/6W CARBON RES	
	R706	QRD161J-103	10K 1/6W CARBON RES	
	R707	QRD167J-102	1K 1/6W CARBON RES	
	R708	QRZ0077-100	10 1/4W FUSIBLE RE	
	R709	QRD161J-473	47K 1/6W CARBON RES	
	R710	QRD161J-221	220 1/6W CARBON RES	
	R711	QRD167J-102	1K 1/6W CARBON RES	
	R712	QRD161J-103	10K 1/6W CARBON RES	
	R713	QRD161J-103	10K 1/6W CARBON RES	
	R714	QRD167J-223	22K 1/6W CARBON RES	
	R715	QRD161J-103	10K 1/6W CARBON RES	
	R716	QRD161J-681	680 1/6W CARBON RES	
	R717	QRD161J-561	560 1/6W CARBON RES	
	R718	PTH9M04BE471TS	POSITIVE T	
	R719	QRD167J-152	1.5K 1/6W CARBON RES	
	R720	QRD161J-470	47 1/6W CARBON RES	
	R721	QRD161J-473	47K 1/6W CARBON RES	
	R722	QRD161J-512	5.1K 1/6W CARBON RES	
	R723	QRD161J-512	5.1K 1/6W CARBON RES	
	R730	QRD161J-331	330 1/6W CARBON RES	
	R731	QRD161J-331	330 1/6W CARBON RES	
	R732	QRD161J-331	330 1/6W CARBON RES	
	R733	QRD161J-331	330 1/6W CARBON RES	
	R734	QRD167J-223	22K 1/6W CARBON RES	
	R741	QRD167J-223	22K 1/6W CARBON RES	
	R812	QRD167J-332	3.3K 1/6W CARBON RES	
	R816	QRZ0077-4R7	4.7 1/4W FUSE RESIS	
	VR201	QVDC94A-E15E	100K VARIABLE R	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10284-104	CIR.BOARD	
		QWE350-15RR	SHIELD WIRE	
	J211	EMV5109-003B	CONNECT TER	
	J301	EMV7122-103	CONNECT TER	
	J302	EMV5109-003A	MALE CONNEC	
	J303	EMV7122-103	CONNECT TER	
	J305	EMV7122-004	CONNECT TER	
	J311	EMN00TV-405A	JACK BOARD	
	J312	EMN00TV-602A	JACK BOARD	
	J313	EMB90TV-803A	SPEAKER TER	
	J703	EMV7122-103	CONNECT TER	
	J990	EMV5133-003	CONNECT TER	
	BC211	EWS293-0116	SOCKET WIRE	
	EP101	EMZ4002-001Z	EARTH PLATE	
	EP102	EMZ4002-001Z	EARTH PLATE	
	FS701	E306805-040	SPACER	
	FW301	EWR33B-16LST	FLAT WIRE A	
	JA001	EMV7127-015	FEMALE CONN	
	JA002	EMV7127-013	CONNECT TER	
	JA003	EMV7127-019	CONNECT TER	
	JA004	EMV7127-007	CONNECT TER	
	JA005	EMV7127-007	CONNECT TER	
	JA201	EMV7125-015R	P.W.BOARD C	
	JA202	EMV7125-006R	CONNECT TER	
	JA203	EMV7125-007R	CONNECT TER	
	JA204	EMV7125-010R	MALE CONNEC	
	JB101	EMV5140-015	CONNECT TER	
	JB201	EMV5125-015	MALE CONNEC	
	JB202	EMV5125-006	CONNECT TER	
	JB203	EMV5125-007	MALE CONNEC	
	JB204	EMV5125-010	MALE CONNEC	
	JB206	EMV5125-004	CONNECT TER	
	JB501	EMV5125-010	MALE CONNEC	
	JB502	EMV5125-010	MALE CONNEC	
	JB503	EMV5125-012	CONNECT TER	

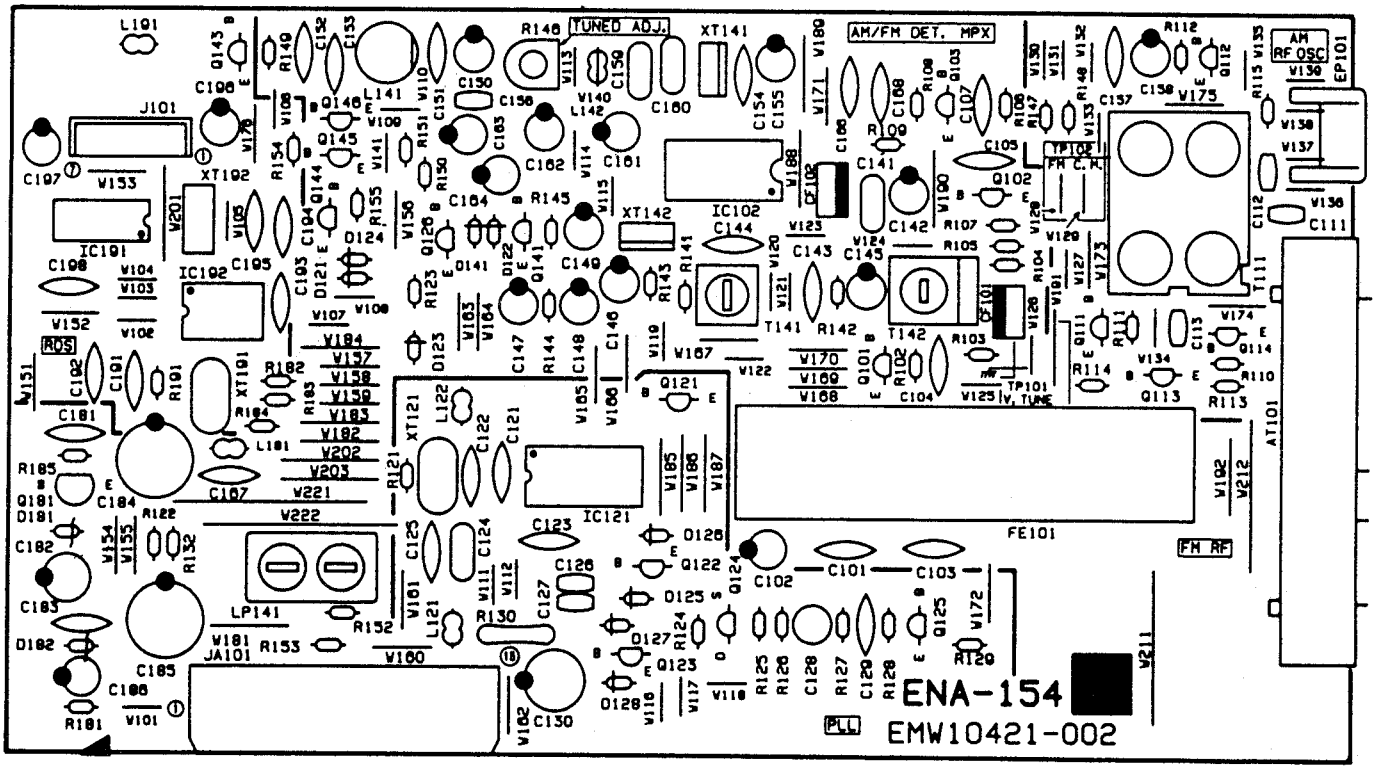
⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	JB801	EMV5125-005	CONNECT TER	
	JB901	EMV7123-027	MALE CONNEC	
	JB901	EMV7155-027	CONNECT TER	
	JT214	EMV7122-103	CONNECT TER	
	JT224	EMV7122-004	CONNECT TER	
	JT812	EMV7122-103	CONNECT TER	
	JT822	EMV7122-103	CONNECT TER	
	RY101	ESK8D24-212	RELAY	
	RY102	ESK8D24-212	RELAY	
	XT701	ECX0008-380KN	CRYSTAL	

⚠ : SAFETY PARTS

■ENA-154 [I] Tuner PC Board Ass'y



TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q101	2SC461(B,C)	SI.TRANSIST HITACHI	
	Q102	2SC535	SI.TRANSIST HITACHI	
	Q103	2SC461(B,C)	SI.TRANSIST HITACHI	
	Q111	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q112	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q113	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q114	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q121	DTA144ES	DIGITAL TRA ROHM	
	Q122	DTA144ES	DIGITAL TRA ROHM	
	Q123	DTA144ES	DIGITAL TRA ROHM	
	Q124	2SK301(Q2)	F.E.T. ﾍﾝｺｳ	
	Q125	2SC458(C,D)	SI.TRANSIST HITACHI	
	Q126	DTC114ES	DIGITAL TRA ROHM	
	Q141	DTC114ES	DIGITAL TRA ROHM	
	Q143	DTC114ES	DIGITAL TRA ROHM	
	Q144	DTA144ES	DIGITAL TRA ROHM	
	Q145	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q146	2SD2144S(VW)	SI.TRANSIST ROHM	
	Q181	2SD400MP(E,F)	SI.TRANSIST SANYO	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LA1836M	I.C(MONO-AN SANYO	
	IC121	LC7218M	I.C(DIGI-MO SANYO	
	IC191	LC7073M	I.C(DIGI-MO SANYO	
	IC192	SAA6579T	I.C(M) 9779	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D121	1SS119	SI.DIODE ﾍﾝｺｳ	
	D122	1SS119	SI.DIODE ﾍﾝｺｳ	
	D123	1SS119	SI.DIODE ﾍﾝｺｳ	
	D124	1SS119	SI.DIODE ﾍﾝｺｳ	
	D125	1SS119	SI.DIODE ﾍﾝｺｳ	
	D126	1SS119	SI.DIODE ﾍﾝｺｳ	
	D127	1SS119	SI.DIODE ﾍﾝｺｳ	
	D128	1SS119	SI.DIODE ﾍﾝｺｳ	
	D141	1SS119	SI.DIODE ﾍﾝｺｳ	
	D181	MTZ7.5JC	ZENER DIODE ROHM	
	D182	MTZ5.1JC	ZENER DIODE ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C101	QCF31HP-103Z	0.01MF	50V	CERAMIC	
	C102	QETB1HM-476	47MF	50V	E.CAPACITO	
	C103	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C104	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C105	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C107	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C111	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	
	C112	QCT30CH-120Y	12PF	50V	CERAMIC	
	C113	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	
	C121	QCS31HJ-180A	18PF	50V	CERAMIC	
	C122	QCS31HJ-180A	18PF	50V	CERAMIC	
	C123	QCC31EM-473ZA	0.047MF	25V	CERAMIC	
	C124	QCZ0202-155	1.5MF	25V	CER.RESIST	
	C125	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C126	QCBB1HK-101Y	100PF	50V	CERAMIC	
	C127	QCBB1HK-101Y	100PF	50V	CERAMIC	
	C128	QENB1HM-474	0.47MF	50V	NP E.CAPAC	
	C129	QCY31HK-102Z	1000PF	50V	CERAMIC	
	C130	QETB1CM-227	220MF	16V	AL E.CAPAC	
	C141	QFLC1HJ-473ZM	0.047MF	50V	METAL.MYLA	*
	C142	QETB1HM-106	10MF	50V	E.CAPACITO	
	C143	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C144	QCC31EM-223Z	0.022MF	25V	CERAMIC	
	C145	QETB1HM-475E	4.7MF	50V	E.CAPACITO	
	C146	QETB1HM-106	10MF	50V	E.CAPACITO	
	C147	QETB1HM-105	1MF	50V	AL E.CAPAC	
	C148	QETB1HM-474	0.47MF	50V	ELECTRO	
	C149	QETB1HM-105	1MF	50V	AL E.CAPAC	
	C150	QETC1HM-225ZN	2.2MF	50V	NON POLE	
	C151	QCS21HJ-181A	180PF	50V	CERAMIC	
	C152	QCS21HJ-181A	180PF	50V	CERAMIC	
	C153	QCY31HK-821Z	820PF	50V	CERAMIC	
	C154	QCY31HK-472Z	4700PF	50V	CERAMIC	
	C155	QETB1EM-476	47MF	25V	AL E.CAPAC	
	C156	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	
	C157	QCF31HP-473Z	0.047MF	50V	CERAMIC	
	C158	QETB1HM-106	10MF	50V	E.CAPACITO	
	C159	QFLC1HJ-333ZM	0.033MF	50V	MYLAR CAPA	
	C160	QFLC1HJ-333ZM	0.033MF	50V	MYLAR CAPA	
	C161	QETB1HM-225	2.2MF	50V	E.CAPACITO	
	C162	QETB1HM-225	2.2MF	50V	E.CAPACITO	
	C163	QETB1HM-225	2.2MF	50V	E.CAPACITO	
	C164	QETB1HM-225	2.2MF	50V	E.CAPACITO	
	C166	QCC31EM-473ZV	0.047MF	25V	CERAMIC	
	C167	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C168	QCZ0202-155	1.5MF	25V	CER.RESIST	
	C181	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C182	QETB1CM-107	100MF	16V	AL E.CAPAC	
	C183	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C184	QETB1CM-227	220MF	16V	AL E.CAPAC	
	C185	QETB1CM-477M	470MF	16V	E.CAPACITO	
	C186	QETB1HM-475E	4.7MF	50V	E.CAPACITO	
	C191	QCS31HJ-820Z	82PF	50V	CERAMIC	
	C192	QCS31HJ-470Z	47PF	50V	CERAMIC	
	C193	QCS31HJ-561Z	560PF	50V	CERAMIC	
	C194	QCF31HP-223Z	0.022MF	50V	CERAMIC	
	C195	QCS31HJ-331Z	330PF	50V	CERAMIC	
	C196	QETB1HM-225	2.2MF	50V	E.CAPACITO	
	C197	QETB1HM-106	10MF	50V	E.CAPACITO	
	C198	QCC31EM-104Z	0.1MF	25V	CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R102	QRD167J-332	3.3K	1/6W	CARBON RES	
	R103	QRD161J-221	220	1/6W	CARBON RES	
	R104	QRD167J-272	2.7K	1/6W	CARBON RES	
	R105	QRD161J-391	390	1/6W	CARBON RES	
	R106	QRD167J-102	1K	1/6W	CARBON RES	
	R107	QRD161J-681	680	1/6W	CARBON RES	
	R108	QRD167J-332	3.3K	1/6W	CARBON RES	
	R109	QRD161J-221	220	1/6W	CARBON RES	
	R110	QRD161J-472	4.7K	1/6W	CARBON RES	
	R111	QRD161J-472	4.7K	1/6W	CARBON RES	
	R112	QRD161J-472	4.7K	1/6W	CARBON RES	
	R113	QRD161J-103	10K	1/6W	CARBON RES	
	R114	QRD161J-103	10K	1/6W	CARBON RES	
	R115	QRD161J-104	100K	1/6W	CARBON RES	
	R121	QRD161J-473	47K	1/6W	CARBON RES	
	R122	QRD161J-103	10K	1/6W	CARBON RES	
	R123	QRD167J-562	5.6K	1/6W	CARBON RES	
	R124	QRD161J-222	2.2K	1/6W	CARBON RES	
	R125	QRD161J-222	2.2K	1/6W	CARBON RES	
	R126	QRD161J-181	180	1/6W	CARBON RES	
	R127	QRD167J-822	8.2K	1/6W	CARBON RES	
	R128	QRD161J-472	4.7K	1/6W	CARBON RES	
	R129	QRD161J-222	2.2K	1/6W	CARBON RES	
	R130	QRZ0077-680	68	1/4W	FUSIBLE RE	
	R132	QRD167J-102	1K	1/6W	CARBON RES	
	R141	QRD161J-392	3.9K	1/6W	CARBON RES	
	R142	QRD161J-103	10K	1/6W	CARBON RES	
	R143	QRD161J-103	10K	1/6W	CARBON RES	
	R144	QRD167J-332	3.3K	1/6W	CARBON RES	
	R145	QRD161J-103	10K	1/6W	CARBON RES	
	R146	QVPA601-103A	10K		TRIMMER RE	
	R147	QRD161J-473	47K	1/6W	CARBON RES	
	R148	QRD161J-561	560	1/6W	CARBON RES	
	R149	QRD161J-103	10K	1/6W	CARBON RES	
	R150	QRD167J-332	3.3K	1/6W	CARBON RES	
	R151	QRD167J-332	3.3K	1/6W	CARBON RES	
	R152	QRD167J-822	8.2K	1/6W	CARBON RES	
	R153	QRD167J-822	8.2K	1/6W	CARBON RES	
	R154	QRD161J-103	10K	1/6W	CARBON RES	
	R155	QRD161J-103	10K	1/6W	CARBON RES	
	R181	QRD161J-222	2.2K	1/6W	CARBON RES	
	R182	QRD161J-103	10K	1/6W	CARBON RES	
	R183	QRD161J-103	10K	1/6W	CARBON RES	
	R184	QRD161J-103	10K	1/6W	CARBON RES	
	R185	QRD161J-472	4.7K	1/6W	CARBON RES	
	R191	QRD161J-222	2.2K	1/6W	CARBON RES	

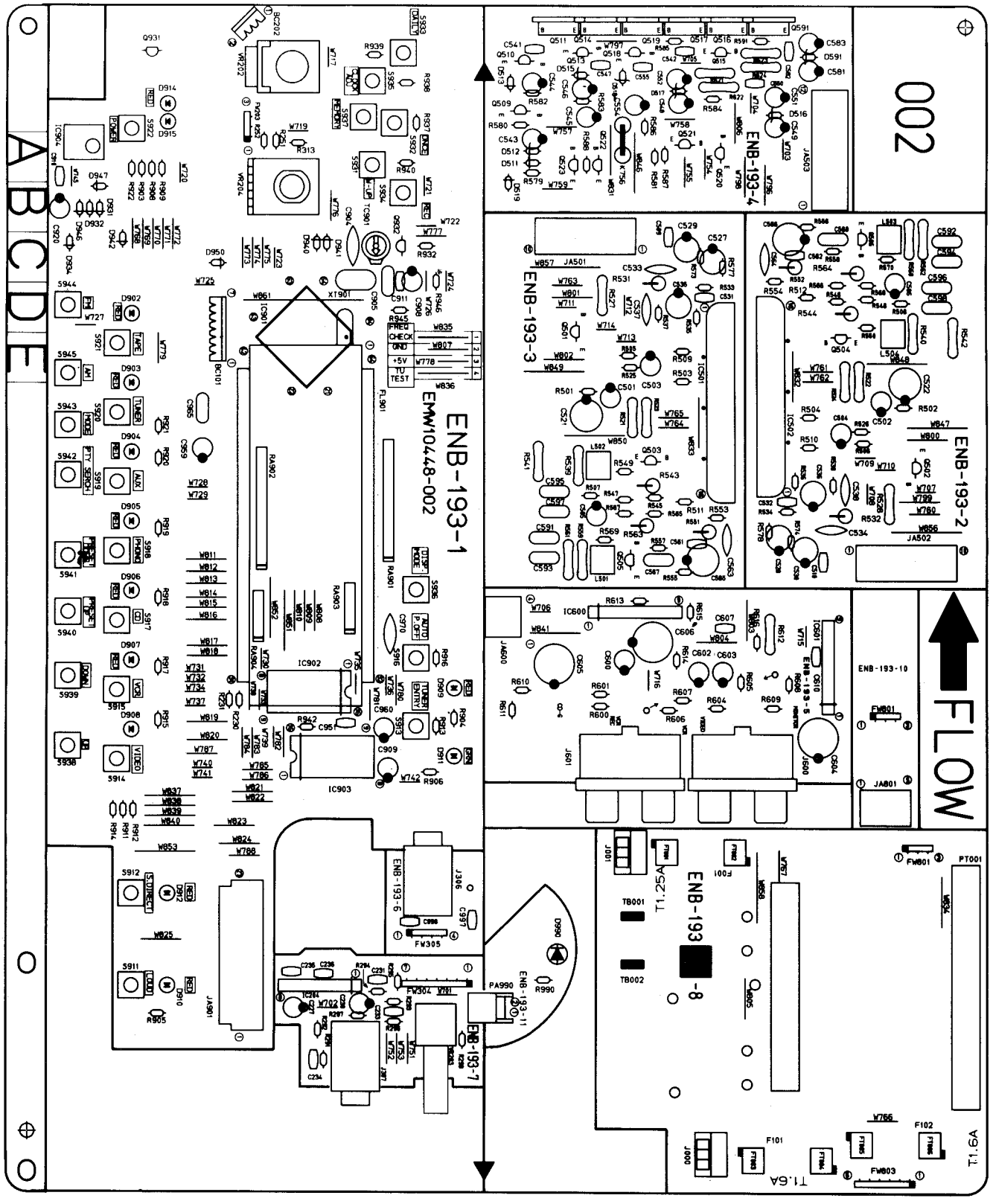
⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		EMW10421-002	CIR.BOARD	
		E309022-001SM	SHIELD BRAC	
		VYH7653-002	I.C.SOCKET	
		VYH7653-004	I.C.PROTECT	
		VYH7653-009	I.C HOLDER	
	J101	EMV5109-007A	MALE CONNEC	
	L111	EQL4004-220	INDUCTOR	
	L121	EQL4004-1R0	INDUCTOR	
	L122	EQL4004-1R0	INDUCTOR	
	L141	EQL2108-392	INDUCTOR	
	L181	EQL4004-1R0	INDUCTOR	
	L191	EQL4004-101	INDUCTOR	
	T111	EQR7121-002	RF COIL	
	T141	EQT2140-021	I.F.TRANSFO	
	T142	ECB1560-010	CERAMIC FIL	
	AT101	EMB41YV-301K	ANTENNA TER	
	CF101	ECB2118-007R	CERAMIC FIL	
	CF102	ECB2118-007R	CERAMIC FIL	
	EP101	E70225-001	EARTH PLATE	
	FE101	EAF2203-005	FRONT END	*
	JA101	EMV7140-L15R	CONNECT TER15pin	
	LP141	EQFO101-002	LOWPASS FIL	
	XT121	ECX0007-200KC	CRYSTAL	
	XT141	ECXPR46-001A	CRYSTAL	
	XT142	ECB1001-002	CERAMIC FIL	
	XT191	VCX5057-001	CRYSTAL	
	XT192	EFO-EC4004T4	CERAMIC RES	

⚠ : SAFETY PARTS

■ENA-193A Front , Speaker & Amplifier PC Board Ass'y



TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q501	DTC144ES	DIGITAL TRA ROHM	
	Q502	DTC144ES	DIGITAL TRA ROHM	
	Q503	2SA933S(RS)	SI.TRANSIST	
	Q504	2SA933S(RS)	SI.TRANSIST	
	Q505	2SA933S(RS)	SI.TRANSIST	
	Q506	2SA933S(RS)	SI.TRANSIST	
	Q509	2SC1740S(R,S)	SI.TRANSIST ROHM	
	Q510	2SA733A(P,K)	SI.TRANSIST	
	Q511	2SB1565(E,F)	SI.TRANSIST ROHM	
	Q513	2SA733A(P,K)	SI.TRANSIST	
	Q514	2SB1565(E,F)	SI.TRANSIST ROHM	
	Q515	2SC945A	SI.TRANSIST NEC	
	Q516	2SD2061(F,G)	SI.TRANSIST ROHM	
	Q517	2SD1944(J,K)	SI.TRANSIST ROHM	
	Q518	2SA733A(P,K)	SI.TRANSIST	
	Q519	2SB1565(E,F)	SI.TRANSIST ROHM	
	Q520	DTA144ES	DIGITAL TRA ROHM	
	Q521	DTC144ES	DIGITAL TRA ROHM	
	Q522	DTA144ES	DIGITAL TRA ROHM	
	Q523	DTC144ES	DIGITAL TRA ROHM	*
	Q591	2SD2394(E,F)	SI.TRANSIST ROHM	
	Q931	DTC114YS	DIGITAL TRA ROHM	
	Q932	DTC114YS	DIGITAL TRA ROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC204	XRA15218N	I.C(MONO-AN	
	IC501	STK4141MK5	I.C(HYBRID) SANYO	
	IC502	STK4141MK5	I.C(HYBRID) SANYO	
	IC600	LA7952	I.C(MONO-AN SANYO	
	IC601	LA7952	I.C(MONO-AN SANYO	
	IC901	MN172412JYL	I.C(MICRO-C MATSUSHITA	
	IC902	TC74HC595AP	I.C(DIGI-MO TOSHIBA	
	IC903	TC74HC595AP	I.C(DIGI-MO TOSHIBA	
	IC904	GP1U901X	INFRARED DE SHARP	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D511	1SS119	SI.DIODE	
	D512	RD12JSB3	ZENER DIODE NEC	
	D513	1SS119	SI.DIODE	
	D515	RD12JSB3	ZENER DIODE NEC	
	D516	MTZ11JC	ZENER DIODE ROHM	
	D517	MTZ6.2JC	ZENER DIODE ROHM	
	D518	MTZ11JC	ZENER DIODE ROHM	
	D519	1SS119	SI.DIODE	
	D591	MTZ5.6JC	ZENER DIODE ROHM	
	D902	SLR-342VC3F	L.E.D. ROHM	
	D903	SLR-342VC3F	L.E.D. ROHM	
	D904	SLR-342VC3F	L.E.D. ROHM	
	D905	SLR-342VC3F	L.E.D. ROHM	
	D906	SLR-342VC3F	L.E.D. ROHM	
	D907	SLR-342VC3F	L.E.D. ROHM	
	D908	SLR-342VC3F	L.E.D. ROHM	
	D909	SLR-342VC3F	L.E.D. ROHM	
	D910	SLR-342VC3F	L.E.D. ROHM	
	D911	SLR-342MC3F	L.E.D. ROHM	
	D912	SLR-342VC3F	L.E.D. ROHM	
	D914	SLR-342VC3F	L.E.D. ROHM	
	D915	SLR-342VC3F	L.E.D. ROHM	
	D934	1SS119	SI.DIODE	
	D940	1SS119	SI.DIODE	
	D941	1SS119	SI.DIODE	
	D942	1SS119	SI.DIODE	
	D946	1SS119	SI.DIODE	
	D947	1SS119	SI.DIODE	
	D950	1SS119	SI.DIODE	
	D990	LN282RPX	L.E.D. MATSUSHITA	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C227	QER51CM-106G	10MF 16V AL E.CAPAC	
	C230	QER51CM-106G	10MF 16V AL E.CAPAC	
	C231	QCBB1HK-101Y	100PF 50V CERAMIC	
	C233	QCBB1HK-101Y	100PF 50V CERAMIC	
	C234	QCGB1HK-102	1000PF 50V CER.CAPACI	
	C235	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C236	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C501	QETB1HM-106	10MF 50V E.CAPACITO	
	C502	QETB1HM-106	10MF 50V E.CAPACITO	
	C503	QETB1HM-226E	22MF 50V E.CAPACITO	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C504	QETB1HM-226E	22MF 50V E.CAPACITO	
	C505	QETB1HM-226E	22MF 50V E.CAPACITO	
	C506	QETB1HM-226E	22MF 50V E.CAPACITO	
	C509	QCSB1HJ-680	68PF 50V CERAMIC	
	C510	QCSB1HJ-680	68PF 50V CERAMIC	
	C521	EEZ5009-476	47MF E.CAPACITO	
	C522	EEZ5009-476	47MF E.CAPACITO	
	C527	EEZ5009-106	10MF AL E.CAPAC	
	C528	EEZ5009-106	10MF AL E.CAPAC	
	C529	EEZ5009-106	10MF AL E.CAPAC	
	C530	EEZ5009-106	10MF AL E.CAPAC	
	C531	QCBB1HK-561Y	560PF 50V CERAMIC	
	C532	QCBB1HK-561Y	560PF 50V CERAMIC	
	C535	EEZ5009-225	2.2MF AL E.CAPAC	
	C536	EEZ5009-225	2.2MF AL E.CAPAC	
	C537	QCS31HJ-5R0Z	5PF 50V CERAMIC	
	C538	QCS31HJ-5R0Z	5PF 50V CERAMIC	
	C541	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C542	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C543	QETB1EM-106	10MF 25V AL E.CAPAC	
	C544	QETB1EM-106	10MF 25V AL E.CAPAC	
	C545	QETB1CM-226	22MF 16V E.CAPACITO	
	C546	QETB1CM-226	22MF 16V E.CAPACITO	
	C547	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C548	QETB1CM-226	22MF 16V E.CAPACITO	
	C549	QETB1CM-226	22MF 16V E.CAPACITO	
	C550	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C551	QETB1CM-476	47MF 16V AL E.CAPAC	
	C552	QETB1AM-476	47MF 10V E.CAPACITO	
	C554	QETB1CM-226	22MF 16V E.CAPACITO	
	C555	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C561	QCXB1CM-122Y	1200PF 16V CERAMIC	
	C562	QCXB1CM-122Y	1200PF 16V CERAMIC	
	C563	QCS31HJ-101Z	100PF 50V CERAMIC	
	C564	QCS31HJ-101Z	100PF 50V CERAMIC	
	C565	EET2501-107E	100MF AL E.CAPAC	
	C566	EET2501-107E	100MF AL E.CAPAC	
	C567	QFN81HJ-123	0.012MF 50V MYLAR	
	C568	QFN81HJ-123	0.012MF 50V MYLAR	
	C581	QETB1AM-476	47MF 10V E.CAPACITO	
	C582	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C583	QETB1AM-476	47MF 10V E.CAPACITO	
	C591	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C592	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C593	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C594	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C595	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C596	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C597	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C598	QFLC1HJ-104ZM	0.1MF 50V MYLAR CAPA	
	C602	QETB1AM-476	47MF 10V E.CAPACITO	
	C603	QETB1AM-476	47MF 10V E.CAPACITO	
	C604	QETBOJM-108	1000MF 6.3V AL E.CAPAC	
	C605	QETBOJM-108	1000MF 6.3V AL E.CAPAC	
	C606	QETB1CM-108N	1000MF 16V E.CAPACITO	
	C607	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C610	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C904	QCT25CH-330Z	33PF 50V CERAMIC	
	C905	QCZ0202-155	1.5MF 25V CER.RESIST	
	C908	QEK51HM-226	22MF 50V E.CAPACITO	
	C909	QEK51HM-105G	1MF 50V AL E.CAPAC	
	C910	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C911	QCVB1CM-103Y	0.01MF 16V CERAMIC	
	C920	QER50JM-476	47MF 6.3V AL E.CAPAC	
	C951	QCBB1HK-561Y	560PF 50V CERAMIC	
	C959	QER51HM-226M	22μF 50V E.CAPACITO	
	C960	QER51HM-226M	22μF 50V E.CAPACITO	
	C965	QCZ0202-155	1.5MF 25V CER.RESIST	
	C970	QCY31HK-102Z	1000PF 50V CERAMIC	
	C997	QCBB1HK-471Y	470PF 50V CERAMIC	
	C998	QCBB1HK-471Y	470PF 50V CERAMIC	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R230	QRD167J-120	12 1/6W CARBON	
	R231	QRD167J-120	12 1/6W CARBON	
	R251	QRD167J-102	1K 1/6W CARBON RES	
	R252	QRD167J-102	1K 1/6W CARBON RES	
	R291	QRD167J-102	1K 1/6W CARBON RES	
	R292	QRD161J-912	9.1K 1/6W CARBON RES	
	R293	QRD161J-104	100K 1/6W CARBON RES	
	R294	QRD161J-331	330 1/6W CARBON RES	
	R295	QRD161J-681	680 1/6W CARBON RES	
	R296	QRD161J-104	100K 1/6W CARBON RES	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R297	QRD167J-562	5.6K	1/6W	CARBON RES	
	R298	QRD167J-562	5.6K	1/6W	CARBON RES	
	R501	QRD167J-272	2.7K	1/6W	CARBON RES	
	R502	QRD167J-272	2.7K	1/6W	CARBON RES	
	R503	QRD167J-272	2.7K	1/6W	CARBON RES	
	R504	QRD167J-272	2.7K	1/6W	CARBON RES	
	R505	QRD167J-272	2.7K	1/6W	CARBON RES	
	R506	QRD167J-272	2.7K	1/6W	CARBON RES	
	R507	QRD167J-272	2.7K	1/6W	CARBON RES	
	R508	QRD167J-272	2.7K	1/6W	CARBON RES	
	R509	QRD167J-272	2.7K	1/6W	CARBON RES	
	R510	QRD167J-272	2.7K	1/6W	CARBON RES	
	R511	QRD167J-272	2.7K	1/6W	CARBON RES	
	R512	QRD167J-272	2.7K	1/6W	CARBON RES	
	R521	QRZ0077-101	100	1/4W	FUSIBLE RE	
	R522	QRZ0077-101	100	1/4W	FUSIBLE RE	
	R523	QRZ0077-100	10	1/4W	FUSIBLE RE	
	R524	QRZ0077-100	10	1/4W	FUSIBLE RE	
	R525	QRD161J-103	10K	1/6W	CARBON RES	
	R526	QRD161J-103	10K	1/6W	CARBON RES	*
	R527	QRZ0077-100	10	1/4W	FUSIBLE RE	
	R528	QRZ0077-100	10	1/4W	FUSIBLE RE	
	R531	ERD004J-122Z	1.2K		R.NETWORK	
	R532	ERD004J-122Z	1.2K		R.NETWORK	
	R533	QRD161J-104	100K	1/6W	CARBON RES	
	R534	QRD161J-104	100K	1/6W	CARBON RES	
	R535	QRD161J-122	1.2K	1/6W	CARBON RES	
	R536	QRD161J-122	1.2K	1/6W	CARBON RES	
	R537	QRD161J-104	100K	1/6W	CARBON RES	
	R538	QRD161J-104	100K	1/6W	CARBON RES	
	R539	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R540	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R541	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R542	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R543	QRX014J-R22	0.22	1W	METAL FILM	
	R544	QRX014J-R22	0.22	1W	METAL FILM	
	R545	QRD167J-223	22K	1/6W	CARBON RES	
	R546	QRD167J-223	22K	1/6W	CARBON RES	
	R547	QRD167J-223	22K	1/6W	CARBON RES	
	R548	QRD167J-223	22K	1/6W	CARBON RES	
	R549	QRD161J-103	10K	1/6W	CARBON RES	
	R550	QRD161J-103	10K	1/6W	CARBON RES	
	R551	ERD004J-471	470		NETWORK RE	
	R552	ERD004J-471	470		NETWORK RE	
	R553	QRD161J-104	100K	1/6W	CARBON RES	
	R554	QRD161J-104	100K	1/6W	CARBON RES	
	R555	QRD161J-473	47K	1/6W	CARBON RES	
	R556	QRD161J-473	47K	1/6W	CARBON RES	
	R557	QRD161J-473	47K	1/6W	CARBON RES	
	R558	QRD161J-473	47K	1/6W	CARBON RES	
	R559	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R560	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R561	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R562	QRD14CJ-100SX	10	1/4W	UNF.CARBON	
	R563	QRX014J-R22	0.22	1W	METAL FILM	
	R564	QRX014J-R22	0.22	1W	METAL FILM	
	R565	QRD167J-223	22K	1/6W	CARBON RES	
	R566	QRD167J-223	22K	1/6W	CARBON RES	
	R567	QRD167J-223	22K	1/6W	CARBON RES	
	R568	QRD167J-223	22K	1/6W	CARBON RES	
	R569	QRD161J-103	10K	1/6W	CARBON RES	
	R570	QRD161J-103	10K	1/6W	CARBON RES	
	R573	QRD167J-102	1K	1/6W	CARBON RES	
	R574	QRD167J-102	1K	1/6W	CARBON RES	
	R577	QRD167J-102	1K	1/6W	CARBON RES	
	R578	QRD167J-102	1K	1/6W	CARBON RES	
	R579	QRD161J-103	10K	1/6W	CARBON RES	
	R580	QRD167J-152	1.5K	1/6W	CARBON RES	
	R581	QRD161J-103	10K	1/6W	CARBON RES	
	R582	QRD161J-472	4.7K	1/6W	CARBON RES	
	R583	QRD161J-222	2.2K	1/6W	CARBON RES	
	R584	QRD167J-332	3.3K	1/6W	CARBON RES	
	R585	QRD161J-392	3.9K	1/6W	CARBON RES	
	R586	QRD167J-332	3.3K	1/6W	CARBON RES	
	R587	QRD161J-103	10K	1/6W	CARBON RES	
	R588	QRD167J-153	15K	1/6W	CARBON RES	
	R591	QRD167J-102	1K	1/6W	CARBON RES	
	R604	QRD161J-750	75	1/6W	CARBON RES	
	R605	QRD161J-100	10	1/6W	CARBON RES	
	R606	QRD161J-750	75	1/6W	CARBON RES	
	R607	QRD161J-221	220	1/6W	CARBON RES	
	R608	QRD161J-473	47K	1/6W	CARBON RES	
	R609	QRD161J-750	75	1/6W	CARBON RES	
	R610	QRD161J-473	47K	1/6W	CARBON RES	
	R611	QRD161J-750	75	1/6W	CARBON RES	
	R612	QRZ0077-100	10	1/4W	FUSIBLE RE	
	R614	QRD161J-474	470K	1/6W	CARBON RES	
	R615	QRD161J-474	470K	1/6W	CARBON RES	
	R616	QRD161J-474	470K	1/6W	CARBON RES	
	R621	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	
	R622	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	
	R623	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	
	R624	QRZ0077-4R7	4.7	1/4W	FUSE RESIS	
	R903	QRD161J-821	820	1/6W	CARBON RES	
	R904	QRD161J-561	560	1/6W	CARBON RES	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R905	QRD167J-471	470	1/6W	CARBON RES	
	R906	QRD161J-391	390	1/6W	CARBON RES	
	R908	QRD161J-331	330	1/6W	CARBON RES	
	R909	QRD161J-331	330	1/6W	CARBON RES	
	R911	QRD161J-103	10K	1/6W	CARBON RES	
	R912	QRD161J-103	10K	1/6W	CARBON RES	
	R913	QRD161J-103	10K	1/6W	CARBON RES	
	R914	QRD167J-272	2.7K	1/6W	CARBON RES	
	R915	QRD167J-272	2.7K	1/6W	CARBON RES	
	R916	QRD167J-272	2.7K	1/6W	CARBON RES	
	R917	QRD161J-432	4.3K	1/6W	CARBON RES	
	R918	QRD161J-432	4.3K	1/6W	CARBON RES	
	R919	QRD167J-822	8.2K	1/6W	CARBON RES	
	R920	QRD167J-822	8.2K	1/6W	CARBON RES	
	R921	QRD161J-243	24K	1/6W	CARBON RES	
	R922	QRD161J-243	24K	1/6W	CARBON RES	
	R932	QRD167J-223	22K	1/6W	CARBON RES	
	R937	QRD161J-103	10K	1/6W	CARBON RES	
	R938	QRD161J-103	10K	1/6W	CARBON RES	
	R939	QRD161J-103	10K	1/6W	CARBON RES	
	R940	QRD161J-103	10K	1/6W	CARBON RES	
	R942	QRD167J-223	22K	1/6W	CARBON RES	
	R945	QRD161J-473	47K	1/6W	CARBON RES	
	R946	QRD161J-473	47K	1/6W	CARBON RES	
	R990	QRD161J-392	3.9K	1/6W	CARBON RES	
	VR202	QVGA81W-E15D	100K		VARIABLE R	
	VR203	QVAB80B-E54C	50K		VARIABLE R	
	VR204	QVJ081A-E14B	10K		VARIABLE R	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		VYH7653-001	SPRING	
		QWE350-07RR	VINYL WIRE	
	J	EMV7112-003	CONNECT TER	
	J001	EMV7112-003	CONNECT TER	
	J306	QMS3L10-EDOH	MICROPHONE	
	J307	QMS3L10-EDOH	MICROPHONE	
	J600	EMN00YV-205A	PIN JACK	
	J601	EMN00YV-205A	PIN JACK	
	K756	ENZ8101-007	INDUCTOR	
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	L503	EQL0001-R45	INDUCTOR	
	L504	EQL0001-R45	INDUCTOR	
	S911	ESP0001-023M	TACT SWITCH AUTO LOUNDNES	
	S912	ESP0001-023M	TACT SWITCH SOURSE DIRECT	
	S913	ESP0001-023M	TACT SWITCH TUNER ENTRY	
	S914	ESP0001-023M	TACT SWITCH VIDEO	
	S915	ESP0001-023M	TACT SWITCH VCR	
	S916	ESP0001-023M	TACT SWITCH AUTO POWER OFF	
	S917	ESP0001-023M	TACT SWITCH CD	
	S918	ESP0001-023M	TACT SWITCH PHONO	
	S919	ESP0001-023M	TACT SWITCH AUX	
	S920	ESP0001-023M	TACT SWITCH TUNER	
	S921	ESP0001-023M	TACT SWITCH TAPE	
	S922	ESP0001-023M	TACT SWITCH POWER	
	S931	ESP0001-023M	TACT SWITCH WAKE UP/SLEEP	
	S932	ESP0001-023M	TACT SWITCH ONCE TIMER	
	S933	ESP0001-023M	TACT SWITCH DAILY TIMER	
	S934	ESP0001-023M	TACT SWITCH REC TIMER	
	S935	ESP0001-023M	TACT SWITCH CLOCK ADJ	
	S936	ESP0001-023M	TACT SWITCH DISPLAY MODE	
	S937	ESP0001-023M	TACT SWITCH MEMORY	
	S938	ESP0001-023M	TACT SWITCH UP	
	S939	ESP0001-023M	TACT SWITCH DOWN	
	S940	ESP0001-023M	TACT SWITCH PRESETUP	
	S941	ESP0001-023M	TACT SWITCH PRESET DOWN	
	S942	ESP0001-023M	TACT SWITCH PRESET SCAN	
	S943	ESP0001-023M	TACT SWITCH FM MODE	
	S944	ESP0001-023M	TACT SWITCH FM	
	S945	ESP0001-023M	TACT SWITCH AM	
	BC101	EWS297-1125	SOCKET WIRE 7PIN	
	BC202	EWS293-0132	SOCKET WIRE	
	FL901	ELU0001-174	FLUORESCENT	
	FT001	EMG7331-002U	CONTACT CLI	
	FT002	EMG7331-002	FEEDER CLAM	
	FT003	EMG7331-002	FEEDER CLAM	
	FT004	EMG7331-002U	CONTACT CLI	
	FT005	EMG7331-002	FEEDER CLAM	
	FT006	EMG7331-002U	CONTACT CLI	
	FW203	EWR33B-10LST	FLAT WIRE A	
	FW304	EWR37B-08LST	FLAT WIRE A	
	FW305	EWR34B-10LST	FLAT WIRE A	
	FW801	EWR33B-10SST	FLAT WIRE A	
	FW803	EWR36B-10LST	FLAT WIRE A	
	JA501	EMV7125-010R	MALE CONNEC	

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	JA502	EMV7125-010R	MALE CONNEC 10pin	
	JA503	EMV7125-012R	CONNECT TER 12pin	
	JA600	EMV7125-004R	CONNECT TER 4pin	
	JA801	EMV7125-005R	CONNECT TER 5pin	
	JA901	EMV7123-027R	MALE CONNEC 27pin	
	JA901	EMV7155-027R	CONNECT TER 27pin	
	PA990	EMV5103-002B	MALE CONNEC 3pin	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	TC901	ENZ1003-015	TRIMMER CAP	
	XT901	ECX0006-000KNJ	CRYSTAL	

⚠ : SAFETY PARTS

■ Accessories List

Symbol No. M 2 M M

⚠	Item	Part Number	Part Name	Q'ty	Description	Area
	1	E30580-2128A	INSTRUCTION BOOK	1		EF
	1	E30580-2129A	INSTRUCTION BOOK	1		EN
	1	E30580-2128A	INSTRUCTION BOOK	1		G
	1	E30580-2128A	INSTRUCTION BOOK	1		GI
	2	QPGA025-03505B	POLY BAG	1		
	3	EWP502-005K	BUILT-IN ANTENNA	1		EF
	3	EWP502-005K	BUILT-IN ANTENNA	1		EN
	3	EWP502-005K	BUILT-IN ANTENNA	1		GI
	4	E67007-001	ANTENNA WIRE	1		G
	5	EQB4001-015	LOOP ANTENNA	1		
	6	BT-20134	WARRANTY CARD	1		G
	7	EWPZ01-004	GND WIRE	1		
	8	EMZ2001-014	ADAPTOR PLUG	1		EF
	8	EMZ2001-014	ADAPTOR PLUG	1		EN
	8	EMZ2001-014	ADAPTOR PLUG	1		GI
	9	EWP902-033	FLAT WIRE ASSY	2		
	10	RM-SEG70U	REMOCON	1		
	11	UM-4NJ-2PSA	BATTERY	2		
	12	UR64EC1293A	BATTERY COVER	1		
	13	E43486-519A	CAUTION SHEET	1		

The Marks for Designated Areas

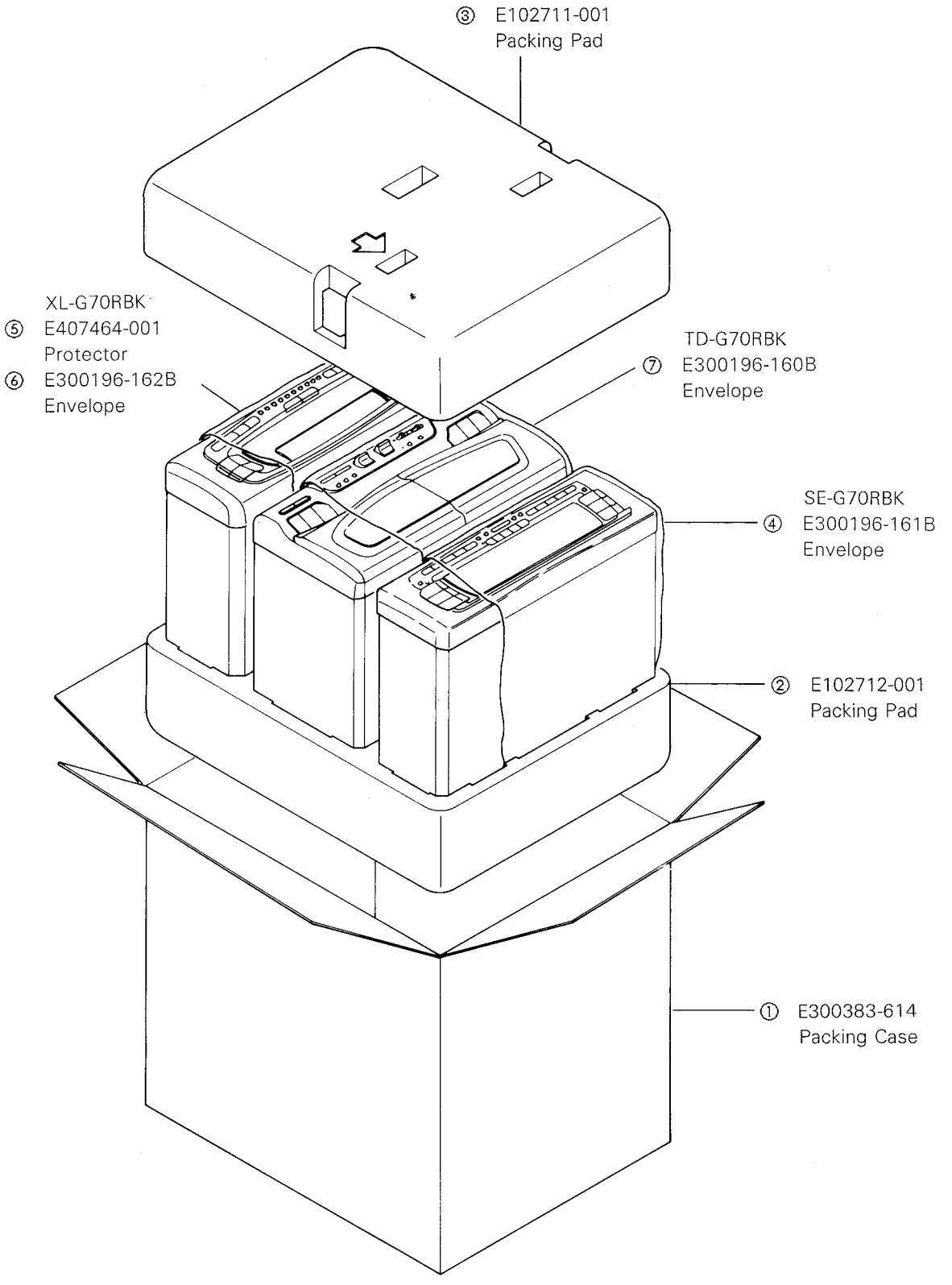
EN .. Scandinavia
EF ... Continental Europe
GI .. Itary
G ... Germany

No mark indicates all area.

Packing Materials and Part Numbers

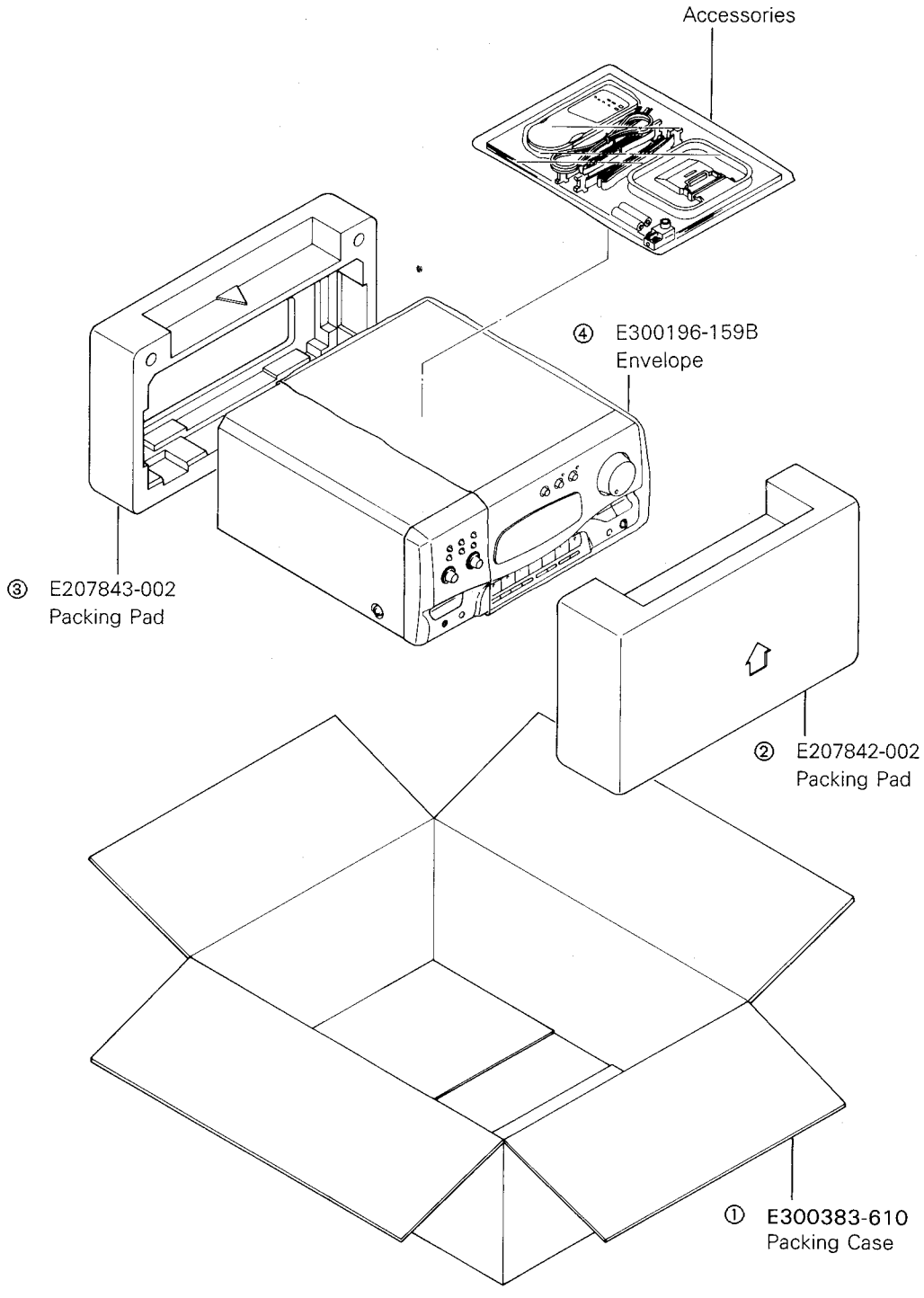
Symbol No. M 3 M M

■ **XT-G70RBK**



■ **RX-G70RBK**

Symbol No. M 4 M M



SE-G70RBK/ XL-G70RBK/ TD-G70RBK

〈 PARTS LIST 〉

■ Differences between SE-G70RBK and SE-MXG7BK.

⚠	page	item	part name	SE-MXG7BK	SE-G70RBK
	2-4	1	Front panel ass'y	EFP-SEMXG7BKE(S	EFP-SEG70RBKE(S
	2-4	1-1	Front panel	E102622-005	E102628-009
	2-4	10	Push button ass'y	E207583-001	E207613-006
	2-4	20	Rear panel	E207624-004	E207624-012
	--	--	GND terminal	-----	E408091-001

■ Differences between XL-G70RBK and XL-MXG7BK.

⚠	page	item	part name	XL-MXG7BK	XL-G70RBK
	2-3	32	Rear panel	E207637-004	E207637-012
	--	--	GND terminal	-----	E408091-001

■ Differences between TD-G70RBK and TD-MXG7BK.

⚠	page	item	part name	TD-MXG7BK	TD-G70RBK
	2-3	3	Cassete lid ass'y	E102639-003SA	E102639-006SA
	2-3	3-1	Cassete lid	E102639-003	E102639-006
	2-3	42	Rear panel	E207639-005	E207639-013

JVC

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